

Northern Rivers Contaminated Land Program - Contamination Report Summary Table



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What was removed or treated? Was it successful, is residual contamination remaining? Is there a need for an ongoing Environmental Management Plan?	No
Appropriately experienced and qualified practitioners	
Practitioner is appropriately experienced and qualified with adequate professional indemnity (PI) insurance for the work undertaken	Yes P 55
Statement of suitability	
The land is considered suitable for [residential, residential with limited soil access, open space, industrial/commercial] land use, other (describe).	Yes 29
Report details	
Report title: 22257 – Yagers Lane – PSI	
Produced by: Ecoteam	ABN: 82 106 758 123
Provided to Client on 7-09-2022	
I Zachary Lyons of Ecoteam state that I have undertaken this assessment in accordance with the guidelines made and approved by the NSW Environment Protection Authority.	
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V2 – 3/9/21



Preliminary Site Investigation

Lot 7 DP 8385 and Lot 8 DP 8385

103 Yagers Lane

Skinners Shoot NSW, 2481

Document Number: 22257

Revision Number: R1

Prepared for:

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EXECUTIVE SUMMARY

Project outline –

Ecoteam has been engaged by Rosalie Stollery of Rosalie Stollery Architects PTY LTD to undertake a Preliminary Site Investigation (PSI) on behalf of their client M Schreiber. The PSI is required for a proposed development project at: Lot 7 DP 8385 (north) and Lot 8 DP 8385 (south), 103 Yagers Lane, Skinners Shoot NSW, 2481. The Area of Environmental Concern (AEC) is 45,000 m² (4.5 ha) within the 128,500 m² (12.85 ha) property area. This document provides information to support a development application for a restaurant, and artisan food & drink industry as well as associated infrastructure including car parks and extensive landscaping of outdoor areas. Some areas of the development are identified for future residential development and therefore the site has been assessed as residential.

Scope of works –

The objectives of this investigation are (i) to determine and document whether soil contamination is likely to have occurred from past land usage; (ii) assess the risk to human health; and (iii) determine the need for further investigations. A desktop assessment was undertaken to review and identify the previous zoning of land; the current and previous land use; the surrounding land use; and aerial photographs. Site assessment and soil sampling was conducted by Zachary Lyons and Jeffery Presbury on Tuesday the 26th of July 2022. The site investigation was undertaken to describe the current conditions of the site and to identify contamination indicators. A systematic grid sampling plan was drafted for the 4.5 ha AEC. A total of 52 grid sub-samples were collected and analysed individually. A further 6 soil duplicates were collected, one for inter and one intra laboratory analysis, with one rinsate matrix sample collected for quality assurance (QA). All soil samples were analysed for metals and pesticides.

Summary of Sampling Results –

The results of the individual soil analyses from this investigation were compared with the Health Investigation Levels (HILs) and Ecological Investigation Levels (EILs) in the Schedule B (1) Guideline on the Investigation Levels for Soil and Groundwater using Column A – Residential (NEPC, 2013a). 52 soil samples, and 3 duplicates were analysed by NATA-accredited SGS Laboratory, and 3 duplicates and the rinsate were analysed by NATA-accredited Envirolab Laboratory. All samples were analysed for metals and pesticides. One sample (11x) was analysed for soil characterisation for EIL calculations (Total Organic Carbon, Iron, pH, Clay content, Exchangeable Ca, K, Mg and Na, and Cation Exchange Capacity).

All metals were below the HILs for ‘Standard’ Residential A Development, and EILs for Urban Residential and Public Open Space (URPOS). All organochlorine and organophosphate results returned results of non-detectable concentrations.

Conclusions and Recommendations –

Based on detecting hotspots with 95% accuracy, no contamination above HIL-A limits exist within the AEC. However, the PSI identified zinc and copper concentrations that exceed adopted EILs URPOS limits in 3 of 52 samples taken across the AEC (**Appendix A**).

Zinc was below the HIL-A guideline levels across the site, however, was above EIL guideline levels at 3 sampling points. The CSM of the source is considered to have occurred from past

commercial agricultural use and leaching from infrastructure such as zinc coated roofing/cladding.

Copper was below the HIL-A guideline levels across the site, however, was above EIL guideline levels at 1 sampling point. The CSM of the source is considered to have occurred from past commercial agricultural use and leaching from infrastructure/materials.

As seen in **Appendix A** the hotspots for EILs contamination are located where future driveways, footpaths, and grassed access tracks will be developed. There are no pathways for movement and no sensitive ecological receptors. Therefore, the EILs and the impact of zinc and copper on the proposed land use is negligible and are not applicable to this site. Given the nature of the proposed development and the results of the soil laboratory analysis, the risk of soil contamination to human health is considered to be negligible. It is considered that the AEC is suitable for the proposed land use. It is recommended that no further soil investigation or remediation activities are required for metal and pesticide contamination within the AEC.

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1. Introduction

1.1. Project Outline

Ecoteam has been engaged by Rosalie Stollery of Rosalie Stollery Architects PTY LTD to undertake a Preliminary Site Investigation (PSI) on behalf of their client M Schreiber. The PSI is required for a proposed development project at: Lot 7 DP 8385 (north) and Lot 8 DP 8385 (south), 103 Yagers Lane, Skinners Shoot NSW, 2481. The Area of Environmental Concern (AEC) is 45,000 m² (4.5 ha) within the 128,500 m² (12.85 ha) property area. This document provides information to support a development application for a restaurant and artisan food & drink industry as well as associated infrastructure including car packs and extensive landscaping of outdoor areas. Some areas of the development are identified for future residential development and therefore the site has been assessed as residential.

1.2. Site Identification

Table 1 contains property details. Refer to **Appendix A** for a detailed site plan of the AEC. **Figure 1** shows the location on the site.

Table 1. Property details.

Feature	Description
Address	103 Yagers Lane, Skinners Shoot NSW, 2481
Plan Number	Lot 7 DP 8385 (north) and Lot 8 DP 8385 (south)
Local Government Area	Byron Shire Council
Property Area	45,000 m ²
Current Zoning (Ballina SC LEP 2012)	RU2: Rural landscape DM: Deferred Matter
Nature of development	Restaurant and artisan food & drink industry

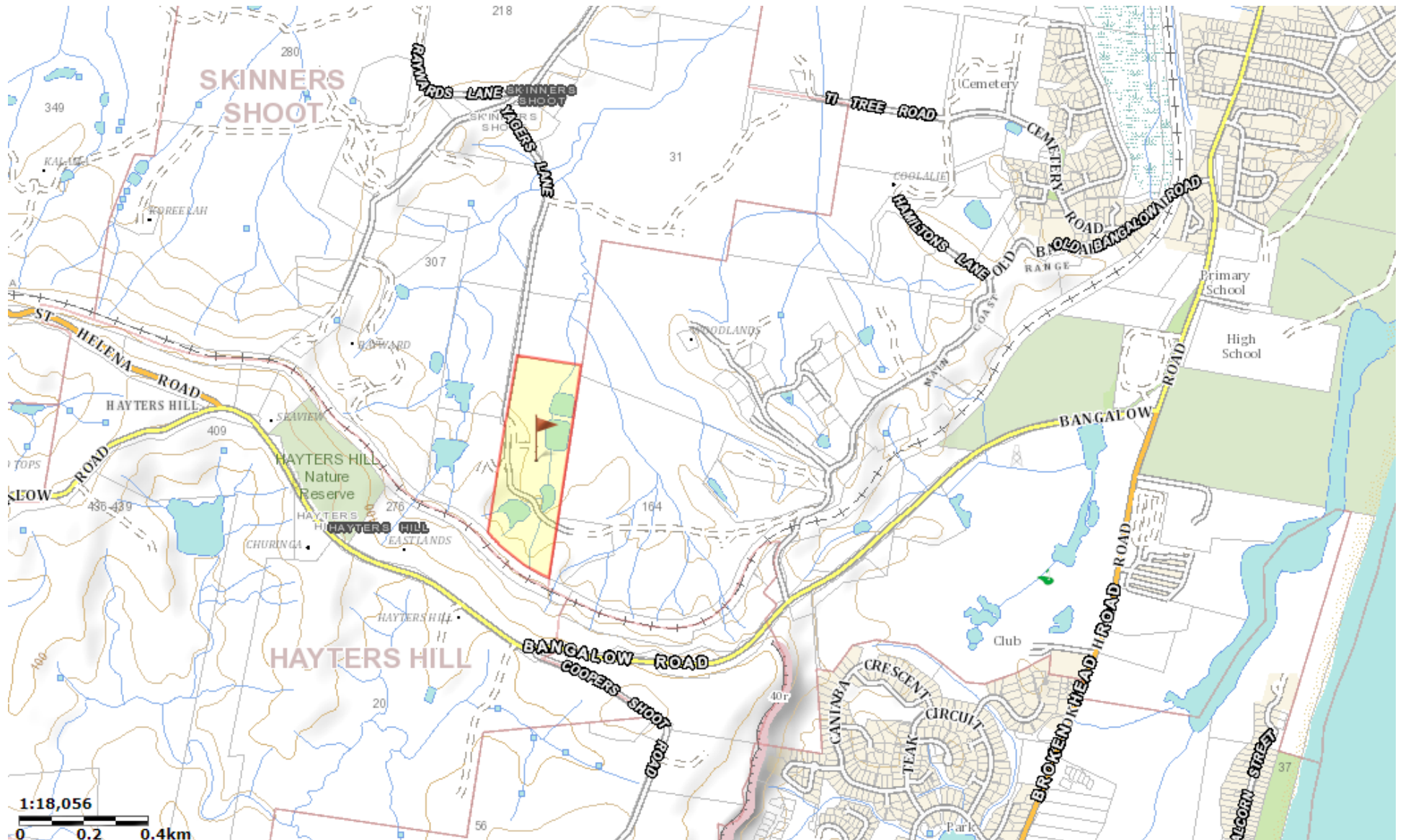


Figure 1. Site location. Property marked with a red flag. Source: Six Maps Online (NSW Spatial Services, NSW Department of finance and Service).

1.3. Scope of Works

The scope of works for this assessment were guided by the OEH (2011), NEPC (2013a - e), and AS 4482.1 (2005). This includes:

1. Undertaking a desktop assessment of landscape features and a review of current and historical land use with the aim of identifying potentially contaminating activities that may have occurred in the past;
2. Preparation of a systematic sampling programme to adequately assess whether soil contamination has occurred within the site;
3. A site assessment of the AEC to extract soil samples, assess site condition and flow pathways, and to identify contamination indicators;
4. A site assessment of the broader property area to assess site condition and flow pathways, and to identify contamination indicators;
5. Soil sampling to include one Inter and one Intra lab duplicate.
6. Submission of soil samples to a NATA-accredited laboratory to measure soil contaminant concentration;
7. Ensuring quality control objectives are achieved;
8. Interpretation of laboratory results in accordance with National Environmental Protection Council Guidelines (2013a); and
9. Preparation of a Preliminary Site Investigation (PSI) report.

1.4. Objectives

The objectives of this assessment are to:

1. Identify potential contamination sources and concentrations of contaminants within soil; and
2. Assess the risk posed to human health by identified level of soil contamination.
3. Assess the adequacy of information available and determine the need for further investigations or site remediation.

1.5. Legislative Framework

The following legislative acts and guidelines have been referred to during the investigation and interpretation processes:

- Managing Land Contamination: Planning Guidelines - SEPP55 - Remediation of Land (DPUA & NSW EPA, 1998).
- Section 105 of the *Contaminated Land Management Act 1997* (CLM Act) (NSW Government, 1997a).
- *Protection of the Environment Operations Act 1997* (POEO Act), (NSW Government, 1997b).
- Australian Standard (AS 4482.1- 2005) Guide to the investigation and sampling of sites with potentially contaminated soil (Part 1).
- Australian Standard (AS 4482.2- 1999) Guide to the sampling and investigation of potentially contaminated soil, Part 2: Volatile substances.
- Contaminated Sites – Sampling Design Guidelines (NSW EPA, 1995).
- Consultants Reporting on Contaminated Land- Contaminated Land Guidelines. (NSW EPA, 2020).
- National Environmental Protection (Assessment of Site Contamination) Measures 1999 - Amended 2013 (NEPC, 2013).
- Regional Policy for the Management of Contaminated Land (NRRC, 2007).
- Waste Classification Guidelines – Part 1: Classifying Waste (EPA, NSW, 2014).
- Contaminated Sites: Guidelines for NSW Site Auditor Scheme (DECC NSW, 2006).
- Guidelines on the Duty to Report Contamination under the *Contaminated Land Management Act 1997* (DECC NSW, 2015).
- Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC/NHMRC, 1992).
- Guidelines for the Assessment of On-site Containment of Contaminated Soil (ANZECC, 1999).

2. Site Condition and Surrounding Environment

2.1. Topography, Geology, Soil Landscape & Hydrogeology

Table 2 contains a description of the regional topography, geology, soil landscape and hydrogeology. The southern half of the property is mapped as Bagotville (*ba*) soil landscape, and the northern half is mapped as Bagotville Variant b (*bab*).

Table 2. Topography, geology, soil landscape & hydrogeology.

Feature	Description
Topography (eSpadev2.2, Google Earth 2022)	Low rolling hills. Slopes are moderately inclined (10–30%). Slope lengths are generally moderately long to long (150–800 m) and slope shapes are either simple or waning. Relief is 40–80 m and elevation is similar. Ridges and crests are narrow to moderately broad (100–200 m). Streams are erosional, tributary and integrated. This soil landscape is often capped with basalt, particularly in the Blackwall Range area.
Geology (Morand, 1994)	Bundamba Group: sandstone, siltstone, claystone, conglomerate. McElroy (1962) has allocated the relevant areas of the Blackwall Range to the Tabulam Group, in which both lithic and quartz sandstones occur. The base of this group is marked over much of the area by the Corindi Conglomerate. An identical conglomerate occurs in the Broken Head–Suffolk Park area (McElroy 1962). This lithology is often littered with white quartz pebbles (“hailstone gravel”) and in some instances is being podzolised.
Hydrology	The subject property forms part of the Richmond River Basin in the <i>Clarence-Moreton Bay GWMA</i> .
Acid Sulphate Soil	No mapped ASS across or adjacent to property. ASS Probability mapping shows L2 Low probability and H1 High probability located approximately 500 m from northern property boundary.

Table 3 contains landscape features identified during the site investigation and site walkover.

Table 3. Landscape features identified at AEC during site investigation.

Feature	Description
Fill	None.
Visible signs of contamination	No visible signs of contamination.
Vegetation	Grazed paddocks, mowed areas, landscaped gardens, and extensive dense regrowth through degraded buildings.
Waste materials present	Piles of vegetation across site. Waste building materials within degraded buildings.
Odours	No abnormal odours detected.
Buildings and roads	The site of the AEC has commercial and residential buildings with sealed driveways.
Surface water quality	No natural surface waters on site. Three large dams onsite 2 were inspected and 1 appears to have poor water quality.
Springs & wells	There are no groundwater (GW) wells on the subject property and there are eleven (2) GW wells located within 500 m of the subject property, GW302222 and GW056767 approximately 500 m to the west of the southern property boundary, and over 1000m from the AEC (Sources: water.nsw.gov.au, accessed 12/08/2022). See Appendix B .
Flood potential	AEC is above the 1 in 100-year flood, AEC elevation ranges between 15 – 30 m AHD.
Sensitive environment	There are two sections vegetation mapped as Subtropical Rainforest mapped within/partially within the property boundaries and within the AEC. This vegetation is also mapped as Areas of High Environmental Value. Belongil Creek is approximately 200 m east from AC

3. Site & Regional History

3.1. Current Land Use

Current land use at the site is of mixed agricultural and residential purposes. The north grassed section of the property appears to be grazed by cattle rotation and some of the old dwellings near to Yagers Lane are used for residency. There are also numerous small and large structures recently used for residential purposes as well as several large sheds as remnants of the past piggery activities. The site is also scattered with landscaped gardens and informal horticultural rare fruit tree plantings.

3.2. Site Walkover

The site was investigated on Tuesday 26th July 2022 by Zachary Lyons and Jeffery Presbury. The proposed development location was identified on-site. The AEC has a mixture of grassed paddocks, degraded piggery sheds, sealed roadway, small and large dwelling structures, and dense vegetation stands. The piggery has not been operational for over 25 years and associated structures have been left unmaintained. Absence of piggery operations has led to the site being revegetated in overrun in some places by both native and invasive vegetation. The structures across the site are generally degraded with some visible attempts to restore or repurpose infrastructure.

The piggery sheds and several other buildings are identified as asbestos board roofs. The asbestos roofing appears to be in an intact state. Other small stacks of asbestos board are located inside the far eastern sheds. Client has informed that the asbestos material in the roofs and within sheds will be professionally removed prior to other developmental works commencing. Site walk over and soil sampling did not reveal any stray pieces of potential asbestos containing material across the site. Other small dwelling have corrugated iron roofs and many of the large buildings have corrugated iron clad walls.

There were no signs of dead grass, odours, spills or other possible signs of contamination within or surrounding the AEC. The land use surrounding the subject property is primarily rural agricultural with some commercial and residential purposes. The areas north and west of the subject property appear to be primarily residential dwellings on large rural lots with likely cattle grazing. To the east appears to be commercial buildings with carparks. Adjacent to the south is a disused railway line followed by dense vegetation before abutting Bungalow Road. Further to the west over the railway line is Hayters Hill Nature Reserve.

3.3. Dip Sites

No registered dip sites are located on the subject property, two (2) registered dip sites are located within 2 km of the AEC. *Hayters Hill* dip site located approximately 700 m south of the AEC; and *Skinners Shoot* Dip site located approximately 770 m north of the AEC. The topography/relief of the AEC in relation to the dip sites is not conducive to pathways of contamination via drainage and the likelihood of land contamination via dip sites is Low. For Dip sites are located within the area surrounding the property see **Appendix C**. Refer to **Table 4** for details of the dip sites within 2 km of the site.

Table 4. Dip site locations and details (NSW DPI, www.dpi.nsw.gov.au/agriculture 08/06/2022).

Feature	Description	
Dip Name	<i>Hayters Hill</i>	<i>Skinners Shoot</i>
Distance & orientation to AEC	700 m S	770 m N
Road	Old Bangalow Road	Yagers Lane
Status	Decommissioned	Decommissioned
Lease expiry date	30/09/2001	30/04/2005
Dip bath status/content	Capped	Capped
Chemicals used	Arsenic, DDT, Dioxathion, Ethion, Ethion Chlordimeform, Amitraz	Arsenic, DDT, Dioxathion, Dioxathion Ethion, Ethion, Ethion Chlordimeform, Amitraz

3.4. Surrounding Land Use

The neighbouring land use of RU2 Rural Landscape and DM Deferred Matter surround the subject property to the north, east and west boundaries. The wider area surrounding the property contains in addition C2 Environmental Management, and C1 National Parks and Heritage Reserve. **Table 5** presents surrounding land use zoning.

Table 5. Surrounding land use.

Orientation	Land Use
North	RU2 Rural Landscape
South	DM Deferred Matter
East	RU2 Rural Landscape
West	RU2 Rural Landscape

3.5. Previous Titles

A prior Title search was conducted via the NSW Land & Property information website for the subject property (**Table 6**).

Table 6. Title search details.

	Lot A (north)	Lot B (south)
Current title (2021)	Lot 7 DP 8385	Lot 8 DP 8385
Previous titles	7/8385	8/8385

3.6. Review of Aerial Photographs

Aerial photographs from 1958 to 2021 were reviewed and summarised to investigate previous land use within the AEC and the surrounding vicinity. **Table 7** contains a summary review of historic aerial photographs for the subject property and surrounding land. (See **Appendix C** for historical images).

Table 7. Summary of historic aerial photographs.

Date	Source	Description
12/10/1958	NSW Historical Imagery	The photograph is black and white and of poor quality. The site is cleared of native vegetation within the AEC and surrounding environment. Vegetation currently mapped as rainforest is present in pictures. There are structures visible within and directly surrounding the AEC. Three large piggery sheds are visible. The surrounding land is largely undeveloped with few structures.
22/09/1966	NSW Historical Imagery	The photograph is black and white and of average quality. A dam is visible to the north of the piggery sheds. The surrounding land is largely undeveloped and used for grazing. Dwelling at the end of Yagers Lane is visible
12/08/1971	NSW Historical Imagery	The photograph is black and white and of good quality. The site remains largely unchanged. Three dams are clearly visible, two north of sheds and one to the south The surrounding land is largely unchanged and used for grazing
03/04/1979	NSW Historical Imagery	The photograph is black and white and of good quality. The site remains largely unchanged. Two northern dams have been joined and a second north dam is being constructed. Two dams are now visible to the south. The surrounding land is largely unchanged and used for grazing. Bare earth is visible.
25/07/1991	NSW Historical Imagery	The photograph is colour and of high quality Three large new sheds are visible over the top of previously disturbed lands. For a total of six piggery sheds which are present at site in current day. Effluent and run off treatment system tank are visible in proximity to sheds. Site appears significantly 'greener' than surrounding lands, suggesting irrigation.
22/04/1997	NSW Historical Imagery	The photograph is colour and of high quality. Structures at top of driveway into site appear to have been demolished.
11/2006	Google Earth	The photograph is colour and of moderate quality. The site remains unchanged.
10/2009	Google Earth	The photograph is colour and of high quality. The site remains largely unchanged. Vegetation regrowth and building abandonment is evident. A large development is being constructed to the south east of subject property. Yagers Lane roadway has been significantly altered and upgraded.

Date	Source	Description
07/2014	Google Earth	The photograph is colour and of good quality (night time). Revegetation across site is continuing with planting likely. Northern paddock area appears to be still grazed keeping back much of the regrowth.
04/2017	Google Earth	The photograph is colour and of good quality. Hard lines of structures have disappeared into vegetation. Degradation of infrastructure is significant. A small structure has appeared east of the main rainforest classed vegetation.
08/2020	Google Earth	The photograph is colour and of good quality. The site remains unchanged. Vegetation continues to colonise site.
10/2021	Google Earth	The photograph is colour and of good quality. The southern portion of the site from the rainforest class vegetation down has mostly been recolonised by vegetation. The northern paddock area is still grazed. Several residential buildings have been constructed in proximity to the subject property

3.7. Historical Land Use

The two lots comprising of the AEC for the proposed development site remained visibly unchanged from 1956 and 1966. The piggery was then expanded with additional sheds, dams, and effluent treatment system until approximately 1991. Since then the has been used for some residential purposes and cattle grazing. The infrastructure has significantly degraded overtime and been revegetated and recolonised by various vegetation. There was significant commercial agricultural use prior to 1997 and consistence low intensity grazing use to present day.

Asbestos containing materials is present on the roofs of piggery sheds and other structures, many of which were likely built prior to 1958 and have remained mostly unchanged. No asbestos containing material was identified outside of the sheds on or within the soil.

Agricultural chemicals that present the greatest contamination risk were those commonly used in the 1940s to 1980s and may have been used within and surrounding the AEC. These include pesticides, fungicides, herbicides and fertilisers that contain toxic contaminants such as arsenic pentoxide, lead arsenate, cadmium, mercury, organo-chlorines, DDT, dieldrin and organo-phosphates (Schedule 1, NRRC, 2007).

Contaminants of potential concern include pesticides and metals from agricultural practices and metals from structures. Due to the previous land use at the property, the likelihood of land contamination within the AEC via past agricultural/commercial land use is moderate.

4. Assessment Criteria

The key assessment criteria adopted in the assessment of contamination is the National Environmental Protection (Assessment of Site Contamination) Measure 2013 (NEPC, 2013a). Schedule B1 provides contaminant exposure levels which can be used to assess risk of contamination to human and ecological receptors. Health investigation levels (HILs), Health Screening levels (HSLs), Ecological Screening Levels (ESLs) and Ecological Investigation Levels (EILs) may be adopted from the measure to determine the likely human and ecological health impacts of contamination and any further investigation required.

HILs provide assessment criteria for indicators of risk and therefore are important for determining immediate risk to human health. HILs have been developed for a range of metals and organic substances and assess risk via all relevant pathways. HILs are relevant to 3 m below the surface for residential use. HSLs are applicable to assessing human health risk through inhalation, ingestion or direct contact pathways and are site dependent. ESLs provide screening levels to assess the risk of organic substances to terrestrial ecosystems. This assessment criteria will be used as a reference to indicate the potential for soil contamination.

4.1. Summary of CoPC

A site assessment was undertaken to determine the likelihood of COPC within the AEC. The site contains several structures and has been used historically for commercial/residential purposes. No further evidence of other contaminating activities was identified during the site assessment and from review of historical aerial imagery dating back to 1958.

COPC are:

- Heavy metals including Aluminium, Arsenic, Beryllium, Boron, Cadmium, Chromium (VI), Cobalt, Copper, Lead, Manganese, Mercury (inorganic), Nickel, Selenium and Zinc; and
- Organochloride and organophosphate pesticides.

4.2. Adopted Assessment Criteria

The assessment criteria are sourced from NEPM Schedule B1 (NEPC, 2013a). Assessment criteria are based on HILs for Low Density Residential (HIL-A) and Generic EILs for Urban Residential and Public Open Space (EIL-URPOS) (**Table 8**). HIL-A includes residential land use with garden/accessible soil (home grown produce <10% fruit and vegetable intake, (no poultry)).

Table 8. Health Investigation Level Assessment Criteria (Residential A- (HIL-A) and Ecological Investigation Levels Assessment Criteria (Urban Residential and Public Open Space) (EILs-URPOS).

Substances	Health Investigation Level (HIL) Column A (mg/kg)	Ecological Investigation Level (EILs) Urban residential and open public spaces (mg/kg)
Metals/Metalloids		
Arsenic	100	100
Beryllium	60	
Boron	4500	
Cadmium	20	
Chromium (III)	100	470
Cobalt	100	
Copper	6000	80
Lead	300	1100
Manganese	3800	
Mercury (inorganic)	40	
Nickel	400	15
Selenium	200	
Zinc	7400	190
Pesticides		
DDT+DDE+DDD	240	180
Aldrin + Dieldrin	6	
Chlordane	50	
Endosulfan	270	
Endrin	10	
Heptachlor	6	
HCB	10	
Methoxychlor	300	
Chlorpyrifos	160	

5. Conceptual Site Model

A Conceptual Site Model (CSM) was prepared to identify pathways and receptors of CoPC within the AEC. The AEC is defined as a 45,000 m² (4.5 ha) area which encompasses the proposed building area, potential produce growing area, and future developmental areas where receptors are most likely to be affected by potential contamination. **Table 9** shows information on the AEC and the CoPCs which were tested at the site. Some of the potential pollutants persist in the soil while others break down over time. Due to the soil type and geology of the AEC, it is considered that most agricultural chemicals, including arsenic and organo-chlorine pesticides such as aldrin/dieldrin, are likely to be concentrated within the top 150 mm of soil (NSW EPA, 1997). Such pollutants have the potential to be transported off-site with soil during surface flow events.

Table 9. AEC, Contaminants of Potential Concern (CoPCs), Sources and Transport mechanisms.

AEC	CoPC	Primary Sources	Secondary Sources	Transport Mechanisms
Development Area	Metals	Metals associated with agricultural, and horticultural chemicals, structures and machinery.	(0-4 m) Migration of contaminated soil and water.	Soil and contaminant particle movement – walking, digging, wind, water erosion.
	Pesticides (organo-chlorines & organo-phosphates)	Pesticides, fungicides, and herbicides used in agricultural applications.	(0-150 mm) Migration of contaminated soil and water.	Soil and contaminant particle movement – walking, digging, wind, water erosion.

5.1. Sensitive Receptors and Pathways

The area of investigation is within a location used in the past for commercial agricultural use as well as residential activities. An application will be submitted to Council for development approval for a new restaurant and artisan food & drink industry as well as associated infrastructure including car packs and extensive landscaping of outdoor areas. The site may also have future residential land use. Therefore, in order to be conservative the site was assessed as land use scenario 'A' Residential for contaminant exposure risk assessment. This land use presents the highest opportunities for soil contact. Sensitive receptors have been identified within the vicinity of the site and include; residents, workers, patrons, visitors, and wildlife.

5.2. Sensitive receptors

Future sensitive receptors have been identified at the site:

- Future construction personnel during excavation work;
- Residents, staff and visitors;
- Commercial/Residential dwellings surrounding the site; and
- Ecological receptors in proximity to the site.

5.3. Potential exposure pathways

Contamination has been identified as being potentially present in soil within the AEC due to past activities. The CoPCs have been identified. Exposure pathways of contaminants in soil include direct contact and ingestion through produce grown on site, dust inhalation, or eating of soil. **Table 10** provides a risk assessment of potential exposure pathways for receptors at the site.

Table 10. Receptor and pathway risk assessment.

Source		Pathway	Risk
Contamination from historical land use	Human health	Ingestion of soil and inhalation of dust particles.	Minor risk. Soil particles may be directly ingested, particularly by young children. Inhalation exposure associated with particulates are considered of less significance than direct ingestion of soil.
		Inhalation/Vapour intrusion	Minor risk. Some pesticide chemicals are semi-volatile but given the time period after the contamination event, the majority of semi-volatile chemicals would not be present.
		Dermal absorption	Minor risk. Dermal absorption of chemicals is low.
	Ecological	Surface runoff to waterways. Infiltration to groundwater.	Low risk. Intermittent Watercourse and dam within proximity to the site. Client knowledge of functioning windmill water bore site, southwest of AEC.

6. Sampling, Analysis and Quality Plan

A Sampling, Analysis and Quality Plan (SAQP) has been developed for the site using the Data Quality Objectives (DQO). DQO are defined using a 7-step planning approach which provides type, quality and quantity of data required to assess the environmental condition of the site. This process defines the project requirements (NEPM 2013, Schedule B2, AS 4482.1 2005).

The 7 steps include:

1. **State the problem**
2. **Identify the decision**
3. **Identify inputs to the decision**
4. **Define boundaries of the study**
5. **Develop a decision rule**
6. **Specify acceptable limits on decision errors**
7. **Optimise the design for obtaining data**

6.1.State the problem

The AEC identified that the site needs to be confirmed as suitable for its intended use. Contamination may be present from past land use practices including metals and pesticides from agricultural activities. These contaminants pose a threat to the health of residents, visitors and workers. Areas with soil contaminant levels above the HIL-A (Residential) and EIL (URPOS) require exclusion or remediation.

Evidence is required to confirm the site does not pose an unacceptable risk to human health or the environment and that the site is suitable for its intended use.

6.2.Identify the decision

Surface soil sampling and analysis will be undertaken to confirm the presence or absence of contaminants within the AEC. Soil sampling analysis results are required to be below the HIL A and EIL (URPOS) to confirm whether the site is suitable for its intended use. If contamination is identified, then the extent will be assessed to provide management and remediation actions.

6.3.Identify inputs into the decision

Inputs into the decision include:

- The historical/background site information listed in **Section 3**;
- Guideline documents listed in **Section 1**;
- Data collected during field assessments and observations of site conditions;
- Outcomes of QA/QC assessment made in **Section 8**; and
- Results from the soil sampling measure against assessment criteria in **Table 8**.

6.4.Define boundaries of the study

The investigation boundaries will be defined as the AEC identified as the proposed 4.5 ha development area (AEC) at Lot 7 DP 8385 (north) and Lot 8 DP 8385 (south), 103 Yagers Lane, Skinners Shoot NSW, 2481.

Refer to **Appendix A** for locations. Surface sampling will be used to detect contamination hotspots. Sampling will determine the horizontal extent of any contamination.

6.5. Develop a decision rule

Data obtained from laboratory analysis and field assessment will be assessed against the adopted exposure risk assessment criteria (**Table 8**). Laboratory data will be accepted if it has passed the QA/QC assessment (**Section 8**).

Decision Rules

- If soil contaminant concentrations are below the adopted assessment criteria, then soil contamination exposure risk is considered acceptable.
- Sites with soil contaminant concentrations exceeding exposure limit assessment criteria (HIL A) will be considered to be contaminated.
- Soil management and/or remediation will be required to reduce exposure risk where soil contamination is unacceptable.

6.6. Specify acceptable limits on decision errors

Decision errors may occur when sampling programs do not adequately detect the variability of a contaminant across the site. Measurement errors occur due to deficient collection and analysis of data.

Two types of decision errors are:

- Deciding that soil contamination on the site poses an acceptable risk for the intended land use when it does not; and
- Deciding that contamination on the site poses an unacceptable risk for the intended land use when it does not.

This assessment aimed to conclude with a 95% probability that analysis of field and soil sampling results in AEC do not present an unacceptable risk and that risk is not assumed unless a 90% probability is applied to that decision.

Soil was assessed against the following points which will quantify tolerable limits on decision errors:

- Comparison of the 95% upper confidence limit of the arithmetic mean concentration (95% UCL values) of each contaminant to the nominated site criterion;
- No individual soil sample result shall have a concentration that exceeds 250% of the criterion;
- A normal distribution will only be applied if the coefficient of variance is not greater than 1.2; and
- The standard deviation of a sample population should not exceed 50% of the nominated criteria.

Assessment and analytical methods used in the assessment were based on qualified and experienced staff using QA and QC procedures. Sampling QA and QC can be found in **Section 8** of this document. Data Quality Indicators (DQI) are listed in **Tables 13, 14, 15 and 16**.

6.7. Optimise the design for obtaining data

The data optimisation was achieved by the following guidelines:

- NEPM (2013)
- OEH (2011)
- AS 4482.1 (2005)
- AS 2282.2 (1999)

Sample methodology and rationale has been documented in **Section 7**. Systematic sampling will be undertaken at the site. Sampling will be taken at surface to assess horizontal extent. Data will be optimised by using QA and QC procedures. Sampling QA and QC can be found in **Section 8** of this document. Data quality indicators (DQI) are listed in **Tables 13, 14, 15 and 16**. This includes using NATA accredited laboratories.

7. Sampling Methodology

7.1. Sampling & Analysis Rationale

The historical use of the land suggests that the greatest risk of contamination is metals and pesticides from commercial agriculture activity, and residential land uses, particularly those chemicals that were commonly used in NSW during the 1940s to 1980s in agriculture and piggeries. Asbestos and metals may also be present from structures. The area that presents the greatest risk of human contact with contamination is within the AEC. Most agricultural chemicals, pesticides, asbestos and metals tend to concentrate in the topsoil and thus it is considered only the top 150 mm of soil be sampled in accordance with AS4482.1-2005. Soil sampling was undertaken by Zachary Lyons and Jeffery Presbury on Tuesday the 26th of July 2022. Weather conditions at the time were sunny and rain prior to assessment. **Appendix E** contains the sampling methodology. Site photographs are presented in **Appendix F**. **Appendix G** contains a summary of results and **Appendix H** contains signed chain-of-custody forms acknowledging receipt date and time, and identity of samples. **Appendix I** contains consultant insurances.

7.2. Sampling Design

The sampling regime was based on the requirements of NSW EPA (1995) and AS4482.1-2005 using a systematic grid sampling pattern, in direct reference to **Procedure A – Number of sampling points required for hot spot detection** (NSW EPA, 1995). Refer to **Table 11** for details on the sampling regime for the AEC.

Table 11. Details on the sampling regime.

Feature	Description
AEC Land area (m ²)	45,000.0 m ²
Minimum number of sampling points required (NSW EPA, 1995)	45,000 m ² = 52
Sampling points employed	52
Sample point interval (grid size) (m)	28
Hotspot diameter (m)	33
Confidence level	95%

A systematic grid and plan were drafted for the 45,000 m² AEC. 52 samples were taken from within the AEC to assess the risk of contaminants from agricultural and residential chemicals, and metals which may be present in the proposed development location. A total of 52 grid sub-samples were collected and analysed individually (**Table 12**). 6 duplicate samples were collected and analysed through inter and intra laboratory assessments for quality assurance (**Table 13**). One sample (11X) was analysed for soil characterisation (Total Organic Carbon, Iron, pH, Clay content, Exchangeable Ca, K, Mg and Na, and Cation Exchange Capacity) To undertake EIL calculations.

Table 12. Sample details.

Sample zone	Sample description	No. of samples	Analysis	Sample ID
45,000 m ² AEC	Systematic grid	52	Metals & pesticides	1- 52
45,000 m ² AEC	Duplicates	6	Metals & pesticides	1X, 11X, 21X, 31X, 41X, 51X

8. Investigation QA/QC Evaluation

Tables 13, 14, 15 and 16 present summaries of the field and laboratory investigation QA/QC evaluation and include Data Quality Indicators (DQI) required to be achieved to ensure quality of data.

Table 13. Investigation DQIs.

Precision	Precision is measured by the reproducibility of the data under different conditions. The laboratory results and sampling techniques will be assessing the Relative Percent Difference (RPD) of duplicate samples (Table 16).
Accuracy	Accuracy assesses any bias in the analysis techniques. The laboratory data compared to the QA/QC presented in Tables 15 and 16 .
Representativeness	Representativeness ensures that sample data represents the characteristics of the environmental condition. Samples will be collected on a representative bases by collecting and adequate number of samples in each location to characterise the site correctly (Table 14).
Comparability	Comparability expresses the confidence of each data set. Consistent technique will be used to collect samples and analyse samples (Tables 14, 15 and 16).
Completeness	Completeness defines the percentage of measurements taken which are considered valid. The validation sampling design and collection methods will ensure sufficient data is collected (Table 14).
Sensitivity	Sensitivity expressed the appropriateness of the laboratory assessment. The LOR will be compared to the adopted criteria (Table 8).

Table 14. Investigation Field QA/ QC program.

Criteria	Objectives/DQI	References	Evaluation/ Comments
Historical evaluation/ desktop study	Determine past and present land use activities that present contamination risk.	Aerial photographs, and communication with owner.	Objective achieved.
Soil Sampling Design	Soil sampling protocol for site investigation will detect contamination within the AEC. Systematic sampling in AEC.	NSW EPA (1995) NEPC (2013b) Schedule B2 OEH (2011)	Objectives achieved.
Site Assessment	Investigate signs of contamination. Assess potential contaminant pathways. Use qualified and experienced staff. Ensure all QA protocol is followed.	NEPC (2013b) Schedule B2 OEH (2011)	Contamination indicators assessed. Objectives achieved.

Table 15. Investigation Field Sampling QA/ QC program.

Criteria	Objectives/DQI	References	Evaluation/ Comments
QA/QC Soil Sampling Procedure	No cross contamination between samples Decontamination procedure – New disposable gloves used to collect samples; spade decontaminated between each sampling location. Sampling equipment washed with phosphate free detergent and rinsed with distilled water for each sampling location. Rinsate samples taken and analysed. Samples individually stored in clean sampling containers provided by SGS. Ensure the proper recording of sample date, locations and sampler. Minimise holding times, temporal and operator influences. Samples stored on ice on the day and sent immediately to the laboratory for delivery the following day. Ensure chain-of-custody procedure.	AS 4482.1 (2005). AS 4482.2 (1999).	Objective achieved during sampling.
QA/QC Soil Sampling Procedure	Field inter and intra laboratory duplicates – Divide a single field sample into two separate samples and send half to the main laboratory and half to another laboratory. 2 duplicate samples assessed per 20 samples. Assess precision of the data by calculating the Relative Percent Difference (RPD) using the following formula: $RPD (\%) = \frac{Co - Cd}{Co + Cd} \times 200$ Where: Co = Analyte concentration of the original sample Cd = Analyte concentration of the duplicate sample Nominal acceptance criteria of 30% to 50% RPD will be used for field intra laboratory duplicates. This may not always be achieved due to heterogenous soil or fill and/or low analyte concentrations. These factors will be taken into consideration when assessing intra-laboratory duplicates.		Objective achieved for sampling. Duplicates taken and analysed. RPD for multiple samples were above acceptance criteria in some inter and intra lab duplicates due to very low analyte concentrations. Both laboratories' results were often only just above the LOR, showing some differences in analysis methodology. This is still within acceptable levels. RPD values ranged between 0.00 and 190.24

Table 16. Investigation laboratory QA program.

Criteria	Objectives/DQI	References	Evaluation/Comments
Testing Accreditation	Maximise data quality by using NATA accredited laboratories.	SGS Sydney (NATA accreditation No. NATA # 2562 Site # 4354. Envirolab Sydney (NATA accreditation No. NATA # 2801 Site # 2894.	Laboratory employs full QA procedures
Laboratory QA/QC	Laboratory duplicates - 1 duplicate sample in every 10 samples are analysed to provide information to ensure analytical precision. Laboratory control sample - A reference sample of known concentration is analysed in the batch to ensure analysis precision. Spiked samples - A field sample is spiked with a known concentration of the analyte of concern to evaluate analytical techniques. Method blanks - An aqueous solution which is free from contamination is added to the reagents and carried through the analysis procedure to ensure no contamination has occurred during the analysis process. Surrogate standard/spikes - Surrogate compounds are spiked into blanks, standards and samples to evaluate the analysis process.		Laboratory QA results were checked and retained.

8.1. QA/QC Summary

Appropriate QA and QC procedures were carried out during field sampling and laboratory analysis to meet data quality objectives.

9. Results & Interpretation

The results of the soil analyses from this investigation were compared with the Health Investigation Levels (HILs) in the Schedule B(1) Guideline on the Investigation Levels for Soil and Groundwater using column A 'Residential' as a conservative measure (**Table 7**) (NEPC, 2013a) and EILs (URPOS). A summary of laboratory results compared to the guideline levels is presented in **Appendix G**. Laboratory analysis results are contained in **Appendix J**. All individual samples (1 -52) were analysed for metals and pesticides.

9.1. Analytes Metals

All metals were below the HILs for 'Residential A' Development Refer to **Appendix J** for the soil analysis results. However, the PSI identified zinc and copper concentrations that exceed adopted EILs for URPOS limits in 3 of the sampling sites, see **Appendix A** for sample locations.

9.1.1 Zinc

Zinc concentrations within the 52 soil samples collected during the PSI ranged from 3 mg/kg to 460 mg/kg. No samples exceed the HIL for Residential A development guideline value of 7,500 mg/kg. 3 soil samples (29, 30, and 46) contained 460 mg/kg, 290 mg/kg and 300 mg/kg of zinc respectively. These levels are above the adopted EIL guideline value of 190 mg/kg. 1 Sample (29) exceeded 250% (475 mg/kg) of the EIL guideline value.

A CSM and further risk assessment has been conducted for potential receptors at the site. The location of elevated zinc at the site has been mapped in **Appendix A**. Elevated concentrations 290 mg/kg to 460 mg/kg are present adjacent to disused piggery grain sheds and near to the southern dam wall above the EIL level. Zinc in these locations does not present a risk to ecological receptors at the site. They are isolated locations which have very low ecological value. The proposed development plans to install driveways and footpaths over the 2 samples in proximity to piggery grain shed and grassed paths and landscaping over the sample in proximity to dam wall.

Zinc exists across the AEC at concentrations averaging around 59.1 mg/kg (**Appendix G**). According to the USEPA Ecological Soil Screening Levels for Zinc (2007) earthworms and invertebrates have individual EIL of zinc ranging from 85 mg/kg to 1,059 mg/kg with the majority of species being able to tolerate concentrations well above 300 mg/kg zinc. Herbivores and carnivores are well adapted to zinc soil levels up to 6,800 mg/kg, 10,000 mg/kg respectively. Highly sensitive ecological species are not expected to be present at the site. Therefore, potential ecological receptors which may be present within the AEC are unlikely to be affected by zinc levels at the site. Following proposed development works the AEC will remain stabilised either as concreted areas, gravelled paths and roadways, or well grassed and landscaped areas, this reduces risk of zinc migrating to downstream receptors.

9.1.2 Copper

Copper concentrations within the 52 soil samples collected during the PSI ranged from 1.1 mg/kg to 100 mg/kg. No samples exceed the HIL for Residential A development guideline value of 6000 mg/kg. 1 soil sample (46 100 mg/kg) contained a concentration of copper above the adopted EIL guideline value of 80 mg/kg.

A further risk assessment and CSM has been conducted for potential receptors at the site. The location of elevated copper at the site has been mapped in **Appendix A**. An elevated concentration of copper of 100 mg/kg is located in proximity to the southern dam wall. Copper in this location does not present a risk to ecological receptors at the site. This is an isolated location which has very low ecological value. The proposed development plans to install concrete and grass paths as well as landscaping over the sample in proximity to dam wall.

Copper exists across the AEC at concentrations averaging around 10.7 mg/kg (**Appendix G**). According to the USEPA Ecological Soil Screening Levels for Copper (2007) earthworms and invertebrates have individual EIL of copper ranging from 6 mg/kg to 873 mg/kg with the majority of species being able to tolerate concentrations well above 100 mg/kg copper. Herbivores and carnivores are well adapted to copper soil levels up to 1,100 mg/kg, 560 mg/kg respectively. Highly sensitive ecological species are not expected to be present at the site. Therefore, potential ecological receptors which may be present within the AEC are unlikely to be affected by elevated copper levels at the site. Following proposed development works the AEC will remain stabilised either as concreted areas, gravelled paths and roadways, or well grassed and landscaped areas, this reduces risk of zinc migrating to downstream receptors.

9.2. Pesticides

A range of organochlorine and organophosphate pesticides were investigated. Analytical results from all samples (52 samples, 3 duplicates) returned non-detectable concentrations for all pesticide analysis. Refer to **Appendix G and J** for the soil analysis results.

10. Conclusion & Recommendations

The AEC located at 103 Yagers Lane, Skinners Shoot, NSW, 2481 is currently used for residential purpose. There are a predominantly agricultural and residential with some commercial or infrastructure land uses in proximity to the proposed development site. There are several past commercial agricultural buildings located within the AEC. Agricultural activities were practiced surrounding and within the development site since the 1950s with piggery activities finishing around the 1990s. There were no odours, stains, burn patches or other evidence of contamination within or surrounding the AEC. No other visible contamination indicators were identified within and surrounding the AEC. Sampling was conducted surrounding the proposed development envelope.

All metals were below the HILs for 'Standard' Residential A Development. The investigation has established that zinc and copper levels are present within the AEC exceeding the adopted EILs.

Zinc was below the HIL-A guideline levels and above EIL guideline levels at 3 locations across the site. Zinc at the site averaged 51.9 mg/kg well below the EIL Level of 190 mg/kg. The CSM of the source is considered to have occurred from past agricultural use and degradation building materials such as zinc coated cladding/roofing. There are no pathways for movement and no sensitive ecological receptors. A risk assessment has concluded that the likely ecological receptors at the site will not be affected by zinc levels remaining at the site. Therefore, the EILs and the impact of zinc on the proposed land prior and following the proposed development is deemed negligible and are not applicable to this site.

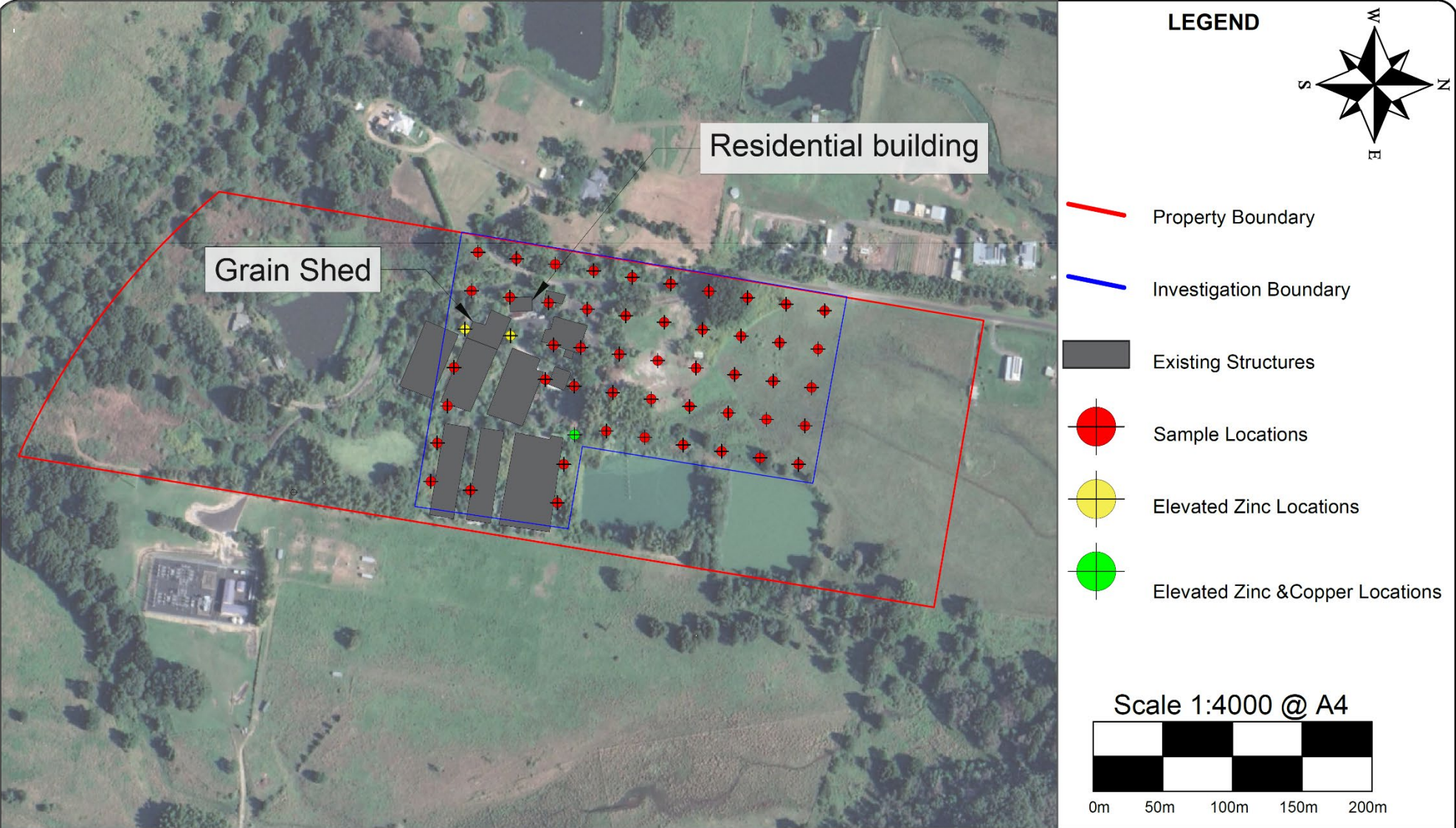
Copper was below the HIL-A guideline levels and above EIL guideline levels at 1 location across the site. Copper at the site averaged 10.7 mg/kg well below the EIL Level of 80 mg/kg. The CSM of the source is considered to have occurred from past agricultural use and degradation of infrastructure. There are no pathways for movement and no sensitive ecological receptors. A risk assessment has concluded that the likely ecological receptors at the site will not be affected by copper levels remaining at the site. Therefore, the EILs and the impact of copper on the proposed land prior and following the proposed development is deemed negligible and are not applicable to this site.

Given the nature of the proposed development and the results of laboratory analysis, the risk of soil contamination to human health and environmental receptors is deemed low across the site at this time.

11. References & Guidelines

- Australian Standard AS4482.1, (2005). Guide to the investigation and sampling of sites with potentially contaminated soil (Part 1: Non-volatile and semi-volatile compounds).
- Australian Standard AS4482.2, (1999). Guide to the investigation and sampling of sites with potentially contaminated soil (Part 2: Volatile substances).
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- National Environmental Protection Council (NEPC) (2013c). National Environmental Protection (Assessment of Site Contamination) Measure, Schedule B (7a) – Guidelines on Health-Based Investigation Levels.
- New South Wales Office of Environmental Protection Authority (NSW EPA) (2020) Consultants Reporting on Contaminated Land- Contaminated Land Guidelines.
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- Hashimoto, T.R, & Troedson, A.L (2007). Grafton 1:100 000 and 1:25 000, coastal Quaternary Geology Maps Series. Geological Survey of NSW, Maitland.
- U.S. Environmental Protection Agency Office of Solid Waste and Emergency - Response, (2007). *Ecological Soil Screening Levels for Zinc*. Washington DC: United States Environmental Protection Agency.
- U.S. Environmental Protection Agency Office of Solid Waste and Emergency - Response, (2007). *Ecological Soil Screening Levels for Copper*. Washington DC: United States Environmental Protection Agency.

Appendix A. Site Mapping



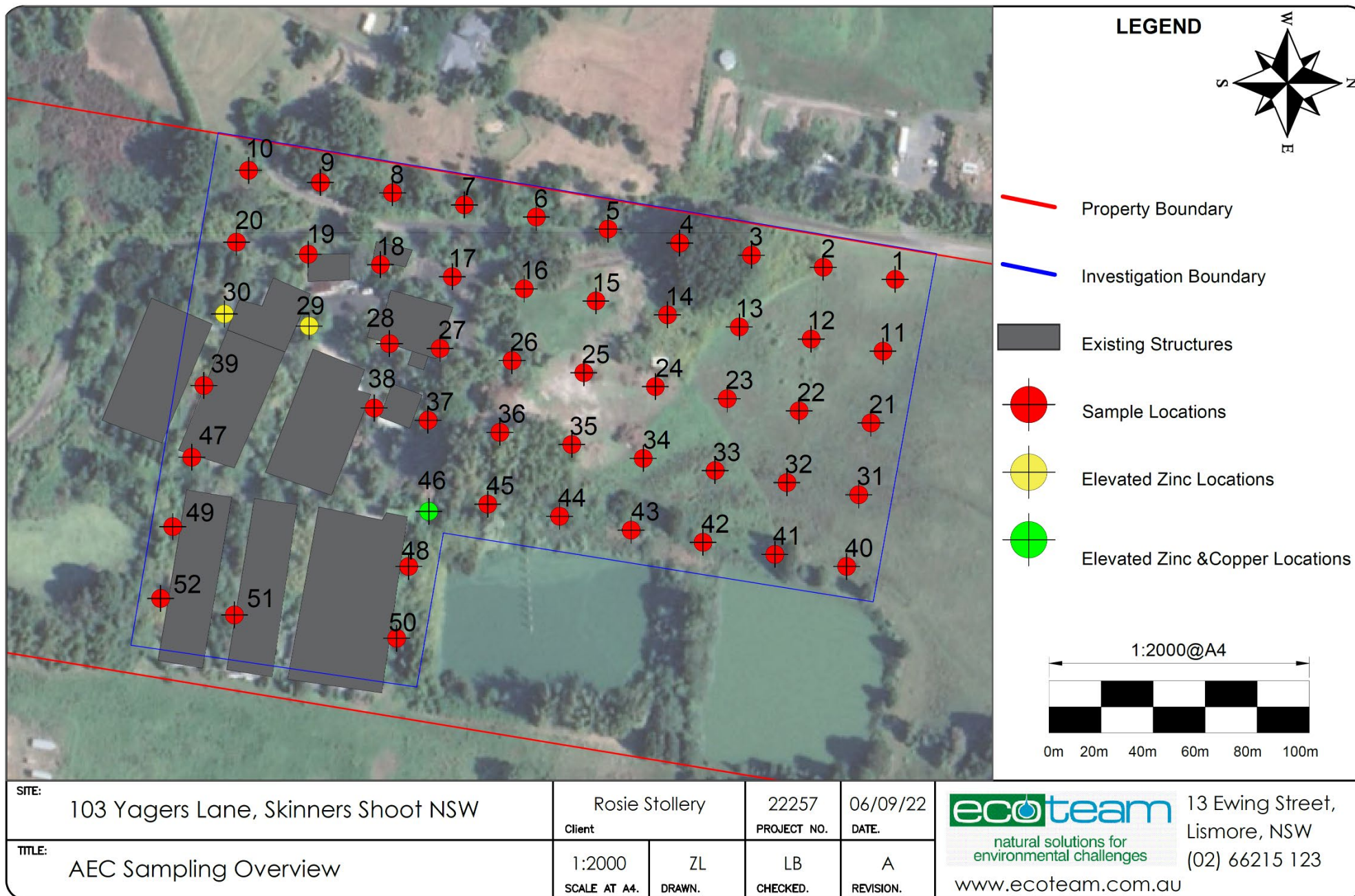
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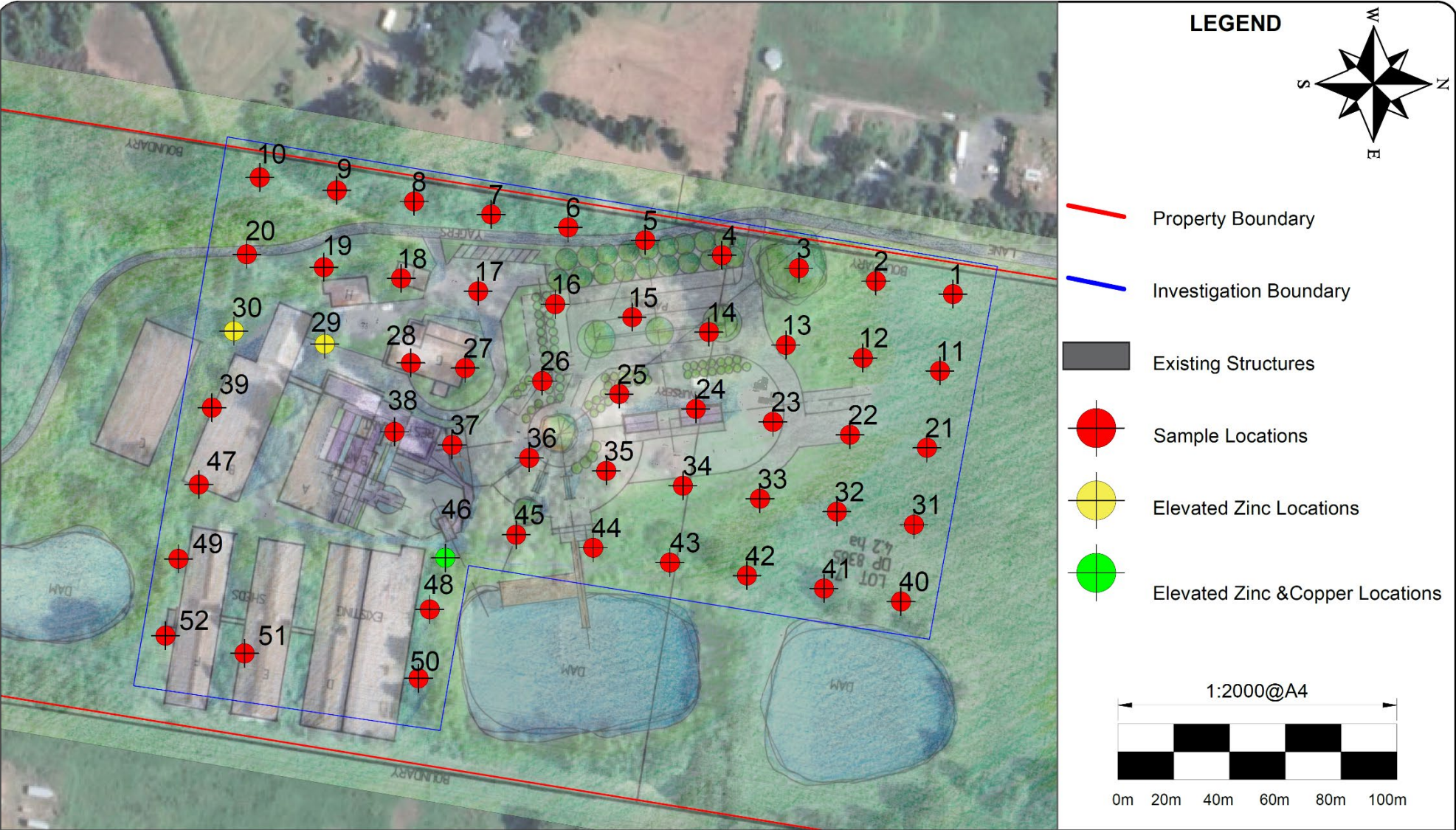


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SITE:	103 Yagers Lane, Skinners Shoot NSW		Rosie Stollery		22257	06/09/22
			Client		PROJECT NO.	DATE.
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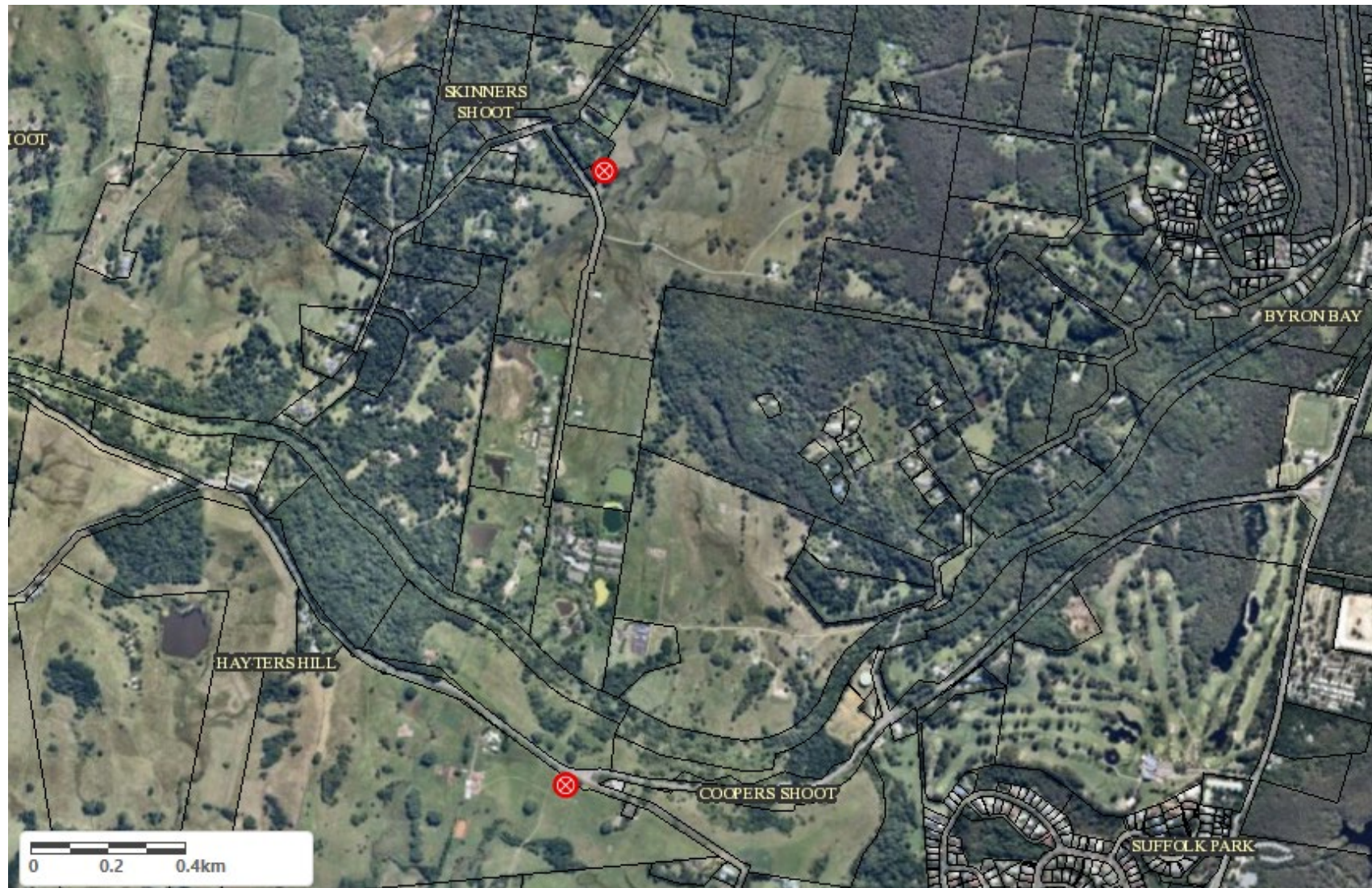
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Appendix B. Groundwater Well Locations



Appendix C. Dip Site Locations



Appendix D. Historic Imagery

	Plate A (12/10/1958) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate B (22/0/1966) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate C (12/08/1971) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.

	Plate D (03/04/1979) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate E (25/07/1991) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate F (22/04/1997) Aerial View: Spatial viewer, 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.

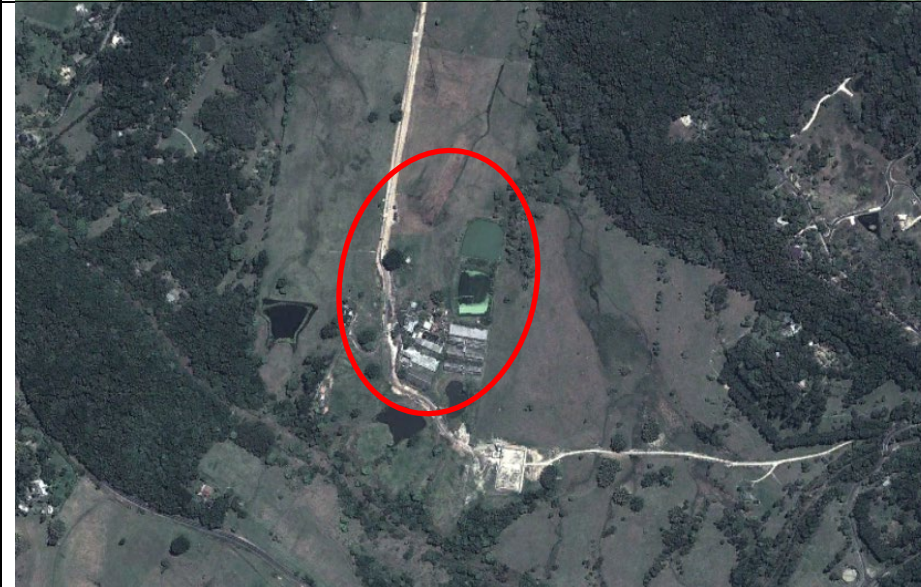
	Plate G (11/2006) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate H (09/2011) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate I (04/2014) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.

	Plate J (04/2017) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate K (16/2020) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.
	Plate L (06/2021) Aerial View: Google Earth: 103 Yagers Lane, Skinners Shoot, NSW, 2481. AEC red circle.

Appendix E. Sampling Methodology

Soil sampling methodology & procedures for soil sampling are as follows:

- Sampling equipment is to be decontaminated immediately prior to sampling, then decontaminated again after extraction of every individual sample;
- Industry standard field tapes, GPS, compasses and maps are to be used to identify and record each of the sample stations;
- Latex or rubber protective gloves are to be used during all soil sampling procedures.
- A hand operated auger or trowel is to be used to collect soil samples at required depths in accordance with AS 4482.1 (2005) sections 7.3.3 and 7.3.5 (a);
- A split spoon sampler can be used during deep profile sampling or the drilling of well boreholes;
- A backhoe may be used for collecting samples from excavated areas;
- Samples are to be immediately placed in a labelled (using permanent waterproof marker) sample jar;
- Samples are to be stored in a cooler with ice in accordance with AS4482.1 (2005) section 7.4.2, and transported to a NATA certified laboratory as soon as practicable,
- A dated and signed chain of custody form, listing all samples from the site including the names of investigators and samplers, is to accompany the samples to the laboratory; and
- All individual samples shall be logged during sampling and observations and weather recorded along with sampler's name, date and time of each sample extraction in accordance with AS 4482.1 (2005) section 7.6.

NOTE: Samples should be delivered as soon as practicable to a NATA certified laboratory and stored in a refrigerator if they are not delivered to the analytical laboratory the same day that they are collected. Chain of Custody forms must be completed upon submission of the samples to the laboratory, and copies of forms must be retained by the site supervisor.

Decontamination of equipment followed the procedures outlined in AS 4482.1 (2005) section 7.5.6, and involved the following:

- Removal of excess soil with a dry scrubbing brush;
- Washing of equipment in fresh water + detergent using a clean scrubbing cloth;
- Rinsing of equipment in fresh water containing detergent using a scrubbing brush;
- Washing of equipment in fresh water;
- Rinsing of equipment in fresh water; and
- Drying of equipment with a disposable cloth towel, then air-dried prior to use.

Analysis of samples to be conducted by NATA accredited Laboratory. All necessary Personal Protection Equipment shall be used by soil sampling personnel.

Appendix F. Site Photographs

	Plate M (26/07/22) View east, across AEC from sample 2 within AEC.
	Plate N (26/07/22) View southeast, across AEC from sample 12 within AEC.

	Plate O (26/07/22) View west, across AEC from sample 40 within AEC.
	Plate P (26/07/22) View northwest, across AEC from sample 52 within AEC.

		Plate Q (26/07/22) View northwest, across AEC from sample 50 within AEC.
		Plate R (26/07/22) View north, across AEC from sample 29 within AEC.
		Plate S (26/07/22) View north, across AEC from sample 9 within AEC.

	Plate T (26/07/22) View northwest, across AEC from sample 38 toward sample 28 within AEC.
	Plate U (26/07/22) View south, across AEC from sample 19 toward sample 29 within AEC.

Appendix G. Summary of Results

Contaminants of Concern (mg/kg)				Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
Assessment Criteria		HIL	Depth	100	60	4,500	20	100	100	6,000	300	3800	40	400	200	7,400	240	6	50	10	6	10	300	160
		EIL	0-2m	100	NL	NL	NL	470	NL	80	1100	NL	NL	15	NL	190	180	NL	NL	NL	NL	NL	NL	NL
Sample ID	Sample Description	Sample Type	Depth (mm)																					
1	Light Clay , Light brown, Moist, firm, low plasticity	Soil	0-150	1	<0.5	<5	<0.3	0.9	<0.5	1.1	<1	8	<0.05	<0.5	<3	3	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
2	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	<0.5	<0.5	4.4	2	6	<0.05	<0.5	<3	8	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
3	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	2.8	0.6	9.5	5	81	<0.05	1.1	<3	34	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
4	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	0.9	<0.5	5.8	2	110	<0.05	0.6	<3	39	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
5	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	3.9	1.7	5.4	4	120	<0.05	1.9	<3	34	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
6	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	<5	<0.3	5.2	1.3	7.1	3	86	<0.05	1.7	<3	9	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
7	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	7.1	<0.5	1.4	1	14	<0.05	1	<3	8	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
8	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	9	<0.3	16	0.5	5.5	2	37	<0.05	1.9	<3	9	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
9	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	1.3	<0.5	2.8	2	29	<0.05	0.6	<3	4	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
10	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	0.5	<0.5	2.8	2	10	<0.05	<0.5	<3	4	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
11	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	8	<0.3	6	1	5.7	3	74	0.06	1.5	<3	22	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2

Contaminants of Concern (mg/kg)				Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
12	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	12	<0.3	11	0.8	8.9	4	50	<0.05	1.7	<3	25	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
13	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	3.5	<0.5	25	7	76	0.1	1.2	<3	40	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
14	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	<5	<0.3	3.6	<0.5	17	4	72	<0.05	0.7	<3	170	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
15	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	2.6	<0.5	7.2	2	53	<0.05	<0.5	<3	17	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
16	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	0.9	<0.5	7	2	7	<0.05	<0.5	<3	9	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
17	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	14	<0.3	6.1	4	5.9	7	290	<0.05	2.5	<3	44	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
18	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	7	<0.3	5.7	1.4	12	38	120	<0.05	2.2	<3	180	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
19	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	6	<0.3	6.7	0.9	17	11	75	0.06	2	<3	180	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
20	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	<5	<0.3	4.1	0.6	7	3	76	<0.05	1.5	<3	7	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
21	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	6	<0.3	3.8	3.2	8.7	2	120	<0.05	1.4	<3	31	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
22	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	13	<0.3	7.5	9.2	8.8	3	130	<0.05	7.6	<3	46	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
23	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	<5	<0.3	0.7	<0.5	25	6	22	<0.05	0.7	<3	26	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
24	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	6	<0.3	7.9	<0.5	14	3	49	<0.05	0.9	<3	31	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
25	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	<0.5	<0.5	5.5	3	5	<0.05	<0.5	<3	18	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
26	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	1	<0.5	2.9	3	6	<0.05	<0.5	<3	6	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2

Contaminants of Concern (mg/kg)				Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
27	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	9	<0.3	10	4.9	11	13	320	<0.05	5.1	<3	100	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
28	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	7	<0.5	24	<0.3	16	0.6	2.2	13	58	0.13	1.1	<3	31	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
29	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	18	0.3	6.2	2.2	29	15	260	0.24	7.8	<3	460	<0.2	<0.2	<0.4	<0.4	<0.2	<0.2	<0.2	<0.2
30	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	<5	<0.3	4.4	<0.5	5.8	12	28	<0.05	1	<3	290	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
31	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	7	<0.5	21	<0.3	6.9	3.8	39	7	45	0.08	5	<3	120	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
32	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	<5	<0.3	5.3	1.4	18	4	17	0.08	3	<3	66	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
33	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	10	<0.3	5.5	3.4	13	6	97	0.07	3.7	<3	49	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
34	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	10	<0.3	7.8	1	13	3	120	<0.05	1.1	<3	39	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
35	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	<5	<0.3	3.1	<0.5	4.5	5	9	<0.05	0.8	<3	9	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
36	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	6	<0.3	3.4	0.6	5.4	3	130	<0.05	0.7	<3	63	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
37	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	8	<0.3	5.2	1.1	4.1	12	79	<0.05	1.4	<3	35	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
38	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	6	<0.3	8.4	0.6	3.5	4	22	0.07	1.4	<3	18	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
39	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	12	<0.3	7.2	4	8	6	170	0.06	3.3	<3	51	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
40	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	8	<0.3	5.2	0.6	7.9	3	23	0.06	1.2	<3	18	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
41	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	7	<0.3	4.3	<0.5	2.9	2	43	0.07	1	<3	14	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2

Contaminants of Concern (mg/kg)				Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
42	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	12	<0.3	8.2	0.7	2.1	3	38	0.09	1.5	<3	12	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
43	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	7	<0.3	5.1	1.4	3.5	1	64	0.06	2.2	<3	14	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
44	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	<1	<0.5	6	<0.3	3.7	1.5	2.7	2	42	<0.05	1.5	<3	10	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
45	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	8	<0.3	4.7	2.2	21	3	130	<0.05	2	<3	110	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
46	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	7	<0.5	13	<0.3	12	4.4	100	74	130	<0.05	3.8	<3	300	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
47	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	5	<0.5	10	<0.3	11	1.8	5.6	5	88	<0.05	2	<3	42	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
48	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	3	<0.5	13	<0.3	7.9	0.9	8	78	61	<0.05	1.4	<3	42	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
49	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	9	<0.3	5	1.1	6.2	11	130	0.05	1.8	<3	64	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
50	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	20	<0.3	7.5	2.1	6.5	6	86	0.13	3.2	<3	35	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
51	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	2	<0.5	10	<0.3	6	1.1	6.9	5	55	0.09	1.3	<3	48	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
52	Light Clay , Red brown, Moist, firm, Moderate plasticity	Soil	0-150	1	<0.5	8	<0.3	4.7	0.5	1.6	3	32	<0.05	0.9	<3	30	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2

Contaminants of Concern (mg/kg)	Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
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Further Analysis																					
No. Samples	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52
Samples above HIL	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum Concentration	51	0.25	24	0.3	16	9.2	100	78	320	0.24	7.8	1.5	460	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Average	51.0	0.3	7.4	0.2	5.5	1.4	10.7	8.1	77	0.0	1.8	1.5	59.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Standard Deviation	51.0	0.0	5.4	0.0	3.6	1.7	14.8	14.9	68	0.0	1.6	0.0	86.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Minimum Required Sample	8.0	0.0	9.1	0.0	12.8	6.4	22.9	51.8	5	0.0	11.5	0.0	14.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95% UCL	7.0	0.3	8.7	0.2	6.3	1.8	14.2	11.7	93	0.1	2.2	1.5	79.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Coefficient of Variance (CV)	7.0	0.0	0.7	0.1	0.7	1.2	1.4	1.8	0.886	0.9	0.9	0.0	1.458	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
1 Sample	1.00	<0.5	<5	<0.3	0.90	<0.5	1.10	<1	8.00	<0.05	<0.5	<3	3.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
1X Inter Lab Duplicate	<1	<0.5	<5	<0.3	1.10	<0.5	1.20	1.00	17	<0.1	<0.5	<3	4.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
Relative % Difference	66.67	0.00	0.00	0.00	-20.00	0.00	-8.70	66.67	-72.00	66.67	0.00	0.00	-28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11 Sample	2.00	<0.5	8.00	<0.3	6.00	1.00	5.70	3.00	74.00	0.06	1.50	<3	22.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
11X Intra Lab Duplicate	<4	<1	<3	<0.4	5.00	1.00	6.00	4.00	78	<0.1	2.00	<2	23.00								
Relative % Difference	0.00	66.67	136.84	-28.57	18.18	0.00	-5.13	28.57	-5.26	18.18	28.57	0.00	-4.44								
21 Sample	2.00	<0.5	6.00	<0.3	3.80	3.20	8.70	2.00	120.00	<0.05	1.40	<3	31.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
21X Inter Lab Duplicate	3.00	<0.5	13	6.00	18.00	6.40	18.00	4.00	240	0.06	1.10	<3	58.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
Relative % Difference	-40.00	0.00	-73.68	-190.24	-130.28	-66.67	-69.66	-66.67	-66.67	-82.35	24.00	0.00	-60.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31 Sample	7.00	<0.5	21.00	<0.3	6.90	3.80	39.00	7.00	45.00	0.08	5.00	<3	120.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
31X Intra Lab Duplicate	13.00	<1	3.00	<0.4	11.00	7.00	75.00	14.00	92	0.10	11.00	<6	210.00								

Contaminants of Concern (mg/kg)		Arsenic	Beryllium	Boron	Cadmium	Chromium (VI)	Cobalt	Copper	Lead	Manganese	Mercury (inorganic)	Nickel	Selenium	Zinc	DDT+DDE+DDD	Aldrin	dieldrin	Endrin	Heptachlor	HCB	Methoxychlor	Chlorpyrifos
Relative % Difference		60.00	66.67	150.00	-28.57	-45.81	59.26	63.16	66.67	-68.61	22.22	75.00	0.00	-54.55								
41	Sample	1.00	<0.5	7.00	<0.3	4.30	<0.5	2.90	2.00	43.00	0.07	1.00	<3	14.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
41X	Inter Lab Duplicate	1.00	<0.5	8.00	<0.3	4.50	<0.5	2.90	2.00	42	0.07	1.10	<3	14.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
Relative % Difference		0.00	0.00	-13.33	0.00	-4.55	0.00	0.00	0.00	2.35	0.00	-9.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	Sample	2.00	<0.5	10.00	<0.3	6.00	1.10	6.90	5.00	55.00	0.09	1.30	<3	48.00	<0.1	<0.1	<0.2	<0.2	<0.1	<0.1	<0.1	<0.2
51X	Intra Lab Duplicate	<4	<1	<3	<0.4	6.00	1.00	6.00	4.00	53	<0.1	2.00	<2	38.00								
Relative % Difference		0.00	66.67	147.83	-28.57	0.00	9.52	13.95	22.22	3.70	57.14	42.42	40.00	23.26								

*A multiplier of 0.5 was applied to results below the LOR for assessment purposes.

Notes

- Highlighted results are above guideline values (Yellow = HIL, Orange=HIL and EIL).
- Background sample was not included in the analysis
- Samples were only analysed for targeted CoPC

Appendix H. Chain Of Custody

SGS		CHAIN OF CUSTODY & ANALYSIS REQUEST										Page 1 ____ of 3 ____								
SGS Environmental Services Unit 16, 33 Maddox Street Alexandria NSW 2015 Telephone No: (02) 85940400 Facsimile No: (02) 85940499 Email: au.samplerreceipt.sydney@sgs.com		Company Name:		Ecoteam				Project Name/No:		22257 – Yagers Lane - PSI										
		Address:		13 Ewing Street, Lismore, NSW, 2480				Purchase Order No:		22257										
		Contact Name:		Zac Lyons				Results Required By:												
								Telephone:		0412288216										
								Facsimile:												
								Email Results:		zac@ecoteam.com.au										
Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	CL2T 8 Metals (Total)	SV3 OC/OP Pesticides												
1	26/07/22	1		S		1	X	X												
2	26/07/22	2		S		1	X	X												
3	26/07/22	3		S		1	X	X												
4	26/07/22	4		S		1	X	X												
5	26/07/22	5		S		1	X	X												
6	26/07/22	6		S		1	X	X												
7	26/07/22	7		S		1	X	X												
8	26/07/22	8		S		1	X	X												
9	26/07/22	9		S		1	X	X												
Relinquished By: Zachary Lyons			Date/Time: 27/07/2022				Received By: <i>[Signature]</i>				Date/Time: 28/07/22 @ 10.15									
Relinquished By:			Date/Time:				Received By:				Date/Time:									
Samples Intact: Yes/ No			Temperature: Ambient / Chilled				Sample Cooler Sealed: Yes/ No				Laboratory Quotation No:									
			Comments:																	

SGS EHS Sydney COC
SE234798



ecoteam v1.0.0 (2022-08-15) 11:00 AM (EST) 11:00 AM

Yin, Emily (Sydney)

From: Zac Lyons <zac@ecoteam.com.au>
Sent: Monday, 15 August 2022 1:24 PM
To: AU.Environmental.Sydney (Sydney)
Cc: AU.SampleReceipt.Sydney (Sydney); Nick Crowley
Subject: [EXTERNAL] RE: Report Job SE234798, your reference 22257 - Yagers Lane - PSI, order number 22257

*** WARNING: this message is from an EXTERNAL SENDER. Please be cautious, particularly with links and attachments. ***

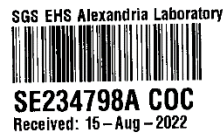
Hi Team,

As discussed on the phone, we require the metal suite CL3T (13 metals) instead of CL2T (8 metals) for job No: 22257.

Can you please pass on the additional metals results and run testing if required.

Thanks heaps,

Zac.



From: AU.Environmental.Sydney@SGS.com <AU.Environmental.Sydney@SGS.com>
Sent: Friday, 5 August 2022 4:04 PM
To: Zac Lyons <zac@ecoteam.com.au>; Nick Crowley <nick@ecoteam.com.au>
Subject: Report Job SE234798, your reference 22257 - Yagers Lane - PSI, order number 22257

Hi Zac and Nick,

Please find attached the report for SGS job SE234798, your reference 22257 - Yagers Lane - PSI, order number 22257.

If you have any questions or concerns, please don't hesitate to contact your SGS Client Services representative.

Best Regards, Elsa Miguel Barritt
SGS Alexandria Customer Service Team
SGS Australia Pty Ltd
Phone: +61 (0)2 8594 0400

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ENVIROLAB GROUP

Sydney Lab - Envirolab Services
12 Ashley St, Chatswood, NSW 2067
☎ 02 9910 6200 | ✉ sydney@envirolab.com.au

Perth Lab - MPL Laboratories
16-18 Hayden Crt, Myaree, WA 6154
Q 08 9317 2505 | ✉ lab@mpl.com.au

Melbourne Lab - Envirolab Services
25 Research Drive, Croydon South, VIC 3136
☎ 03 9763 2500 | ✉ melbourne@envirolab.com.au

Adelaide Office - Envirolab Services
7a The Parade, Norwood, SA 5067
☎ 08 7087 6800 | ✉ adelaide@envirolab.com.au

Brisbane Office - Envirolab Services
20a, 10-20 Depot St, Banyo, QLD 4014
☎ 07 3266 9532 | ✉ brisbane@envirolab.com.au

Darwin Office - Envirolab Services
Unit 20/119 Reichardt Road, Winnellie, NT 0820

Client: Ecotechnology Trading as Ecoteam

Contact Person: Robyn Mirigliani

Project Mgr: Zachary Lyons

Sampler: Zac Lyons

Address: 13 Ewing Street Lismore NSW 2480

Phone: 02 66215123

Mob: 0412288216

Email:

Client Project Name/Number/Site etc (ie report title):

22257 - Yagers Lane- PSI

PO No.: 22257

EnviroLab Quote No. :

Date results required:	Standard
------------------------	----------

Or choose: standard / same day / 1 day / 2 day / 3 day
Note: Inform lab in advance if urgent turnaround is required -
surcharges apply

Additional report format: esdat / equis /

Lab Comments:

zac@ecoteam.com.au

PO No.:

Comments

[illegible]

☐ Please tick the box if observed settled sediment present in water samples is to be included in the extraction and/or analysis

Relinquished by (Company):

Print Name: Zachary Lyons

Date & Time:	27/07/2022
--------------	------------

Signature: ZL

Received by (Company) FCI S.A.

Print Name: Chantel

Date & Time: 28/07/20

Signature:

Lab Use Only.

job number: 301622

Temperature:	11°C
--------------	------

TAT Reg. SAME day / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20 / 21 / 22 / 23 / 24 / 25 / 26 / 27 / 28 / 29 / 30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 38 / 39 / 40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 48 / 49 / 50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60 / 61 / 62 / 63 / 64 / 65 / 66 / 67 / 68 / 69 / 70 / 71 / 72 / 73 / 74 / 75 / 76 / 77 / 78 / 79 / 80 / 81 / 82 / 83 / 84 / 85 / 86 / 87 / 88 / 89 / 90 / 91 / 92 / 93 / 94 / 95 / 96 / 97 / 98 / 99 / 100 / 101 / 102 / 103 / 104 / 105 / 106 / 107 / 108 / 109 / 110 / 111 / 112 / 113 / 114 / 115 / 116 / 117 / 118 / 119 / 120 / 121 / 122 / 123 / 124 / 125 / 126 / 127 / 128 / 129 / 130 / 131 / 132 / 133 / 134 / 135 / 136 / 137 / 138 / 139 / 140 / 141 / 142 / 143 / 144 / 145 / 146 / 147 / 148 / 149 / 150 / 151 / 152 / 153 / 154 / 155 / 156 / 157 / 158 / 159 / 160 / 161 / 162 / 163 / 164 / 165 / 166 / 167 / 168 / 169 / 170 / 171 / 172 / 173 / 174 / 175 / 176 / 177 / 178 / 179 / 180 / 181 / 182 / 183 / 184 / 185 / 186 / 187 / 188 / 189 / 190 / 191 / 192 / 193 / 194 / 195 / 196 / 197 / 198 / 199 / 200 / 201 / 202 / 203 / 204 / 205 / 206 / 207 / 208 / 209 / 210 / 211 / 212 / 213 / 214 / 215 / 216 / 217 / 218 / 219 / 220 / 221 / 222 / 223 / 224 / 225 / 226 / 227 / 228 / 229 / 230 / 231 / 232 / 233 / 234 / 235 / 236 / 237 / 238 / 239 / 240 / 241 / 242 / 243 / 244 / 245 / 246 / 247 / 248 / 249 / 250 / 251 / 252 / 253 / 254 / 255 / 256 / 257 / 258 / 259 / 260 / 261 / 262 / 263 / 264 / 265 / 266 / 267 / 268 / 269 / 270 / 271 / 272 / 273 / 274 / 275 / 276 / 277 / 278 / 279 / 280 / 281 / 282 / 283 / 284 / 285 / 286 / 287 / 288 / 289 / 290 / 291 / 292 / 293 / 294 / 295 / 296 / 297 / 298 / 299 / 300 / 301 / 302 / 303 / 304 / 305 / 306 / 307 / 308 / 309 / 310 / 311 / 312 / 313 / 314 / 315 / 316 / 317 / 318 / 319 / 320 / 321 / 322 / 323 / 324 / 325 / 326 / 327 / 328 / 329 / 330 / 331 / 332 / 333 / 334 / 335 / 336 / 337 / 338 / 339 / 340 / 341 / 342 / 343 / 344 / 345 / 346 / 347 / 348 / 349 / 350 / 351 / 352 / 353 / 354 / 355 / 356 / 357 / 358 / 359 / 360 / 361 / 362 / 363 / 364 / 365 / 366 / 367 / 368 / 369 / 370 / 371 / 372 / 373 / 374 / 375 / 376 / 377 / 378 / 379 / 380 / 381 / 382 / 383 / 384 / 385 / 386 / 387 / 388 / 389 / 390 / 391 / 392 / 393 / 394 / 395 / 396 / 397 / 398 / 399 / 400 / 401 / 402 / 403 / 404 / 405 / 406 / 407 / 408 / 409 / 410 / 411 / 412 / 413 / 414 / 415 / 416 / 417 / 418 / 419 / 420 / 421 / 422 / 423 / 424 / 425 / 426 / 427 / 428 / 429 / 430 / 431 / 432 / 433 / 434 / 435 / 436 / 437 / 438 / 439 / 440 / 441 / 442 / 443 / 444 / 445 / 446 / 447 / 448 / 449 / 450 / 451 / 452 / 453 / 454 / 455 / 456 / 457 / 458 / 459 / 460 / 461 / 462 / 463 / 464 / 465 / 466 / 467 / 468 / 469 / 470 / 471 / 472 / 473 / 474 / 475 / 476 / 477 / 478 / 479 / 480 / 481 / 482 / 483 / 484 / 485 / 486 / 487 / 488 / 489 / 490 / 491 / 492 / 493 / 494 / 495 / 496 / 497 / 498 / 499 / 500 / 501 / 502 / 503 / 504 / 505 / 506 / 507 / 508 / 509 / 510 / 511 / 512 / 513 / 514 / 515 / 516 / 517 / 518 / 519 / 520 / 521 / 522 / 523 / 524 / 525 / 526 / 527 / 528 / 529 / 530 / 531 / 532 / 533 / 534 / 535 / 536 / 537 / 538 / 539 / 540 / 541 / 542 / 543 / 544 / 545 / 546 / 547 / 548 / 549 / 550 / 551 / 552 / 553 / 554 / 555 / 556 / 557 / 558 / 559 / 560 / 561 / 562 / 563 / 564 / 565 / 566 / 567 / 568 / 569 / 570 / 571 / 572 / 573 / 574 / 575 / 576 / 577 / 578 / 579 / 580 / 581 / 582 / 583 / 584 / 585 / 586 / 587 / 588 / 589 / 590 / 591 / 592 / 593 / 594 / 595 / 596 / 597 / 598 / 599 / 600 / 601 / 602 / 603 / 604 / 605 / 606 / 607 / 608 / 609 / 610 / 611 / 612 / 613 / 614 / 615 / 616 / 617 / 618 / 619 / 620 / 621 / 622 / 623 / 624 / 625 / 626 / 627 / 628 / 629 / 630 / 631 / 632 / 633 / 634 / 635 / 636 / 637 / 638 / 639 / 640 / 641 / 642 / 643 / 644 / 645 / 646 / 647 / 648 / 649 / 650 / 651 / 652 / 653 / 654 / 655 / 656 / 657 / 658 / 659 / 660 / 661 / 662 / 663 / 664 / 665 / 666 / 667 / 668 / 669 / 670 / 671 / 672 / 673 / 674 / 675 / 676 / 677 / 678 / 679 / 680 / 681 / 682 / 683 / 684 / 685 / 686 / 687 / 688 / 689 / 690 / 691 / 692 / 693 / 694 / 695 / 696 / 697 / 698 / 699 / 700 / 701 / 702 / 703 / 704 / 705 / 706 / 707 / 708 / 709 / 710 / 711 / 712 / 713 / 714 / 715 / 716 / 717 / 718 / 719 / 720 / 721 / 722 / 723 / 724 / 725 / 726 / 727 / 728 / 729 / 730 / 731 / 732 / 733 / 734 / 735 / 736 / 737 / 738 / 739 / 740 / 741 / 742 / 743 / 744 / 745 / 746 / 747 / 748 / 749 / 750 / 751 / 752 / 753 / 754 / 755 / 756 / 757 / 758 / 759 / 760 / 761 / 762 / 763 / 764 / 765 / 766 / 767 / 768 / 769 / 770 / 771 / 772 / 773 / 774 / 775 / 776 / 777 / 778 / 779 / 780 / 781 / 782 / 783 / 784 / 785 / 786 / 787 / 788 / 789 / 790 / 791 / 792 / 793 / 794 / 795 / 796 / 797 / 798 / 799 / 800 / 801 / 802 / 803 / 804 / 805 / 806 / 807 / 808 / 809 / 810 / 811 / 812 / 813 / 814 / 815 / 816 / 817 / 818 / 819 / 820 / 821 / 822 / 823 / 824 / 825 / 826 / 827 / 828 / 829 / 830 / 831 / 832 / 833 / 834 / 835 / 836 / 837 / 838 / 839 / 8

Cooling: 1 week / None

Security: none / latest / Best...

Security seal: Intact / Broken / None

Appendix I. Insurances

Insurance Class	Policy No.	Insurer	Period of Insurance	Limit of Liability
Worker's Compensation	124079601	iCare Workers Compensation	31 October 2021 - 31 October 2022	NA
Professional Indemnity	P-PI/0/260230/20/L-4	DUAL Australia Pty Ltd On behalf of certain underwriters at Lloyd's	30 January 2022 - 30 January 2023	\$5,000,000
Public/Products Liability	12120041	Sterling Insurance Pty Ltd 100% underwritten by certain underwriters at Lloyd's	15 December 2021 - 15 December 2022	\$20,000,000

Appendix J. Soil Analysis Results

CERTIFICATE OF ANALYSIS 301622

Client Details

Client	Ecoteam
Attention	Zac Lyons
Address	13 Ewing Street, Lismore, NSW, 2480

Sample Details

Your Reference	<u>22257 - Yagers Lane PSI</u>
Number of Samples	3 Soil, 1 Water
Date samples received	28/07/2022
Date completed instructions received	28/07/2022

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.
Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	05/08/2022
Date of Issue	05/08/2022
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Giovanni Agosti, Group Technical Manager
 Hannah Nguyen, Metals Supervisor
 Priya Samarawickrama, Senior Chemist
 Steven Luong, Senior Chemist

Authorised By



Nancy Zhang, Laboratory Manager

Acid Extractable metals in soil				
Our Reference		301622-1	301622-2	301622-3
Your Reference	UNITS	11x	31x	51x
Depth		150mm	150mm	150mm
Date Sampled		26/07/2022	26/07/2022	26/07/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	05/08/2022	05/08/2022	05/08/2022
Date analysed	-	05/08/2022	05/08/2022	05/08/2022
Arsenic	mg/kg	<4	13	<4
Cadmium	mg/kg	<0.4	<0.4	<0.4
Chromium	mg/kg	5	11	6
Copper	mg/kg	6	75	6
Lead	mg/kg	4	14	4
Mercury	mg/kg	<0.1	0.1	<0.1
Nickel	mg/kg	2	11	2
Zinc	mg/kg	23	210	38
Beryllium	mg/kg	<1	<1	<1
Boron	mg/kg	<3	3	<3
Cobalt	mg/kg	1	7	1
Manganese	mg/kg	78	92	53
Selenium	mg/kg	<2	<6	<2
Iron	mg/kg	13,000	53,000	18,000

CEC		
Our Reference		301622-1
Your Reference	UNITS	11x
Depth		150mm
Date Sampled		26/07/2022
Type of sample		Soil
Date prepared	-	05/08/2022
Date analysed	-	05/08/2022
Exchangeable Ca	meq/100g	2.4
Exchangeable K	meq/100g	<0.1
Exchangeable Mg	meq/100g	0.3
Exchangeable Na	meq/100g	<0.1
Cation Exchange Capacity	meq/100g	2.8

Misc Inorg - Soil		
Our Reference		301622-1
Your Reference	UNITS	11x
Depth		150mm
Date Sampled		26/07/2022
Type of sample		Soil
Date prepared	-	05/08/2022
Date analysed	-	05/08/2022
Total Organic Carbon (Walkley Black)	mg/kg	39,000
pH 1:5 soil:CaCl ₂	pH Units	4.6

Clay 50-120g		
Our Reference		301622-1
Your Reference	UNITS	11x
Depth		150mm
Date Sampled		26/07/2022
Type of sample		Soil
Date prepared	-	03/08/2022
Date analysed	-	04/08/2022
Clay in soils <2µm	% (w/w)	15

Client Reference: 22257 - Yagers Lane PSI

Moisture				
Our Reference		301622-1	301622-2	301622-3
Your Reference	UNITS	11x	31x	51x
Depth		150mm	150mm	150mm
Date Sampled		26/07/2022	26/07/2022	26/07/2022
Type of sample		Soil	Soil	Soil
Date prepared	-	01/08/2022	01/08/2022	01/08/2022
Date analysed	-	02/08/2022	02/08/2022	02/08/2022
Moisture	%	29	78	20

Metals in Water - Dissolved		
Our Reference		301622-4
Your Reference	UNITS	R1
Depth		-
Date Sampled		26/07/2022
Type of sample		Water
Date digested	-	01/08/2022
Date analysed	-	01/08/2022
Arsenic - Dissolved	mg/L	<0.05
Cadmium - Dissolved	mg/L	<0.01
Chromium - Dissolved	mg/L	<0.01
Copper - Dissolved	mg/L	<0.01
Lead - Dissolved	mg/L	<0.03
Mercury - Dissolved	mg/L	<0.0005
Nickel - Dissolved	mg/L	<0.02
Zinc - Dissolved	mg/L	<0.02
Boron - Dissolved	mg/L	<0.2
Beryllium - Dissolved	mg/L	<0.01
Cobalt - Dissolved	mg/L	<0.02
Manganese - Dissolved	mg/L	<0.01
Selenium - Dissolved	mg/L	<0.1

Method ID	Methodology Summary
AS1289.3.6.3	Particle Size Distribution using in house method INORG-107 by way of sieving and/or hydrometer sedimentation testing. Clay fraction at <2µm reported.
Inorg-001	pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-008	Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours.
Inorg-036	Total Organic Carbon or Matter - A titrimetric method that measures the oxidisable organic content of soils.
Metals-020	Determination of various metals by ICP-AES.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.
Metals-021	Determination of Mercury by Cold Vapour AAS.

Client Reference: 22257 - Yagers Lane PSI

QUALITY CONTROL: Acid Extractable metals in soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-18	[NT]
Date prepared	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Date analysed	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Arsenic	mg/kg	4	Metals-020	<4	[NT]	[NT]	[NT]	[NT]	97	[NT]
Cadmium	mg/kg	0.4	Metals-020	<0.4	[NT]	[NT]	[NT]	[NT]	92	[NT]
Chromium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Copper	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	94	[NT]
Lead	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Mercury	mg/kg	0.1	Metals-021	<0.1	[NT]	[NT]	[NT]	[NT]	92	[NT]
Nickel	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Zinc	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]
Beryllium	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	95	[NT]
Boron	mg/kg	3	Metals-020	<3	[NT]	[NT]	[NT]	[NT]	93	[NT]
Cobalt	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	97	[NT]
Manganese	mg/kg	1	Metals-020	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Selenium	mg/kg	2	Metals-020	<2	[NT]	[NT]	[NT]	[NT]	92	[NT]
Iron	mg/kg	10	Metals-020	<10	[NT]	[NT]	[NT]	[NT]	117	[NT]

Client Reference: 22257 - Yagers Lane PSI

QUALITY CONTROL: CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Date analysed	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	91	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	96	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	87	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	94	[NT]

Client Reference: 22257 - Yagers Lane PSI

QUALITY CONTROL: Misc Inorg - Soil					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date prepared	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Date analysed	-			05/08/2022	[NT]	[NT]	[NT]	[NT]	05/08/2022	[NT]
Total Organic Carbon (Walkley Black)	mg/kg	1000	Inorg-036	<1000	[NT]	[NT]	[NT]	[NT]	88	[NT]
pH 1:5 soil:CaCl ₂	pH Units		Inorg-001	[NT]	[NT]	[NT]	[NT]	[NT]	102	[NT]

Client Reference: 22257 - Yagers Lane PSI

QUALITY CONTROL: Metals in Water - Dissolved					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-W1	[NT]
Date digested	-			01/08/2022	[NT]	[NT]	[NT]	[NT]	01/08/2022	[NT]
Date analysed	-			01/08/2022	[NT]	[NT]	[NT]	[NT]	01/08/2022	[NT]
Arsenic - Dissolved	mg/L	0.05	Metals-020	<0.05	[NT]	[NT]	[NT]	[NT]	92	[NT]
Cadmium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	87	[NT]
Chromium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	88	[NT]
Copper - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	91	[NT]
Lead - Dissolved	mg/L	0.03	Metals-020	<0.03	[NT]	[NT]	[NT]	[NT]	89	[NT]
Mercury - Dissolved	mg/L	0.0005	Metals-021	<0.0005	[NT]	[NT]	[NT]	[NT]	97	[NT]
Nickel - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Zinc - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	95	[NT]
Boron - Dissolved	mg/L	0.2	Metals-020	<0.2	[NT]	[NT]	[NT]	[NT]	87	[NT]
Beryllium - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	90	[NT]
Cobalt - Dissolved	mg/L	0.02	Metals-020	<0.02	[NT]	[NT]	[NT]	[NT]	88	[NT]
Manganese - Dissolved	mg/L	0.01	Metals-020	<0.01	[NT]	[NT]	[NT]	[NT]	89	[NT]
Selenium - Dissolved	mg/L	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	83	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

8 metals in soil - The PQL has been raised for Se due to interferences from analytes (other than those being tested) in sample #2.

CLIENT DETAILS

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Project **22257 - Yagers Lane - PSI**
 Order Number **22257**
 Samples **55**

LABORATORY DETAILS

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SGS Reference **SE234798 R0**
 Date Received **28/7/2022**
 Date Reported **5/8/2022**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

OC - Detection limit(s) raised due to high moisture content of the sample.

SIGNATORIES



Akheeqar BENIAMREEN
 Chemist



Dong LIANG
 Metals/Inorganics Team Leader



Huong CRAWFORD
 Production Manager



Kamrul AHSAN
 Senior Chemist



Ly Kim HA
 Organic Section Head



Shane MCDERMOTT
 Inorganic/Metals Chemist

OC Pesticides in Soil [AN420] Tested: 1/8/2022

PARAMETER	UOM	LOR	1	2	3	4	5
			SOIL - 26/7/2022 SE234798.001	SOIL - 26/7/2022 SE234798.002	SOIL - 26/7/2022 SE234798.003	SOIL - 26/7/2022 SE234798.004	SOIL - 26/7/2022 SE234798.005
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	6	7	8	9	10
			SOIL - 26/7/2022 SE234798.006	SOIL - 26/7/2022 SE234798.007	SOIL - 26/7/2022 SE234798.008	SOIL - 26/7/2022 SE234798.009	SOIL - 26/7/2022 SE234798.010
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	11	12	13	14	15
			SOIL - 26/7/2022 SE234798.011	SOIL - 26/7/2022 SE234798.012	SOIL - 26/7/2022 SE234798.013	SOIL - 26/7/2022 SE234798.014	SOIL - 26/7/2022 SE234798.015
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	16	17	18	19	20
			SOIL - 26/7/2022 SE234798.016	SOIL - 26/7/2022 SE234798.017	SOIL - 26/7/2022 SE234798.018	SOIL - 26/7/2022 SE234798.019	SOIL - 26/7/2022 SE234798.020
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	21	22	23	24	25
			SOIL - 26/7/2022 SE234798.021	SOIL - 26/7/2022 SE234798.022	SOIL - 26/7/2022 SE234798.023	SOIL - 26/7/2022 SE234798.024	SOIL - 26/7/2022 SE234798.025
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	26	27	28	29	30
			SOIL - 26/7/2022 SE234798.026	SOIL - 26/7/2022 SE234798.027	SOIL - 26/7/2022 SE234798.028	SOIL - 26/7/2022 SE234798.029	SOIL - 26/7/2022 SE234798.030
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.4†	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.4†	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.4†	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.4†	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.2†	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<2†	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<2†	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	31	32	33	34	35
			SOIL - 26/7/2022 SE234798.031	SOIL - 26/7/2022 SE234798.032	SOIL - 26/7/2022 SE234798.033	SOIL - 26/7/2022 SE234798.034	SOIL - 26/7/2022 SE234798.035
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	36	37	38	39	40
			SOIL - 26/7/2022 SE234798.036	SOIL - 26/7/2022 SE234798.037	SOIL - 26/7/2022 SE234798.038	SOIL - 26/7/2022 SE234798.039	SOIL - 26/7/2022 SE234798.040
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	41	42	43	44	45
			SOIL - 26/7/2022 SE234798.041	SOIL - 26/7/2022 SE234798.042	SOIL - 26/7/2022 SE234798.043	SOIL - 26/7/2022 SE234798.044	SOIL - 26/7/2022 SE234798.045
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	46	47	48	49	50
			SOIL - 26/7/2022 SE234798.046	SOIL - 26/7/2022 SE234798.047	SOIL - 26/7/2022 SE234798.048	SOIL - 26/7/2022 SE234798.049	SOIL - 26/7/2022 SE234798.050
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OC Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	51	52	1X	21X	41X
			SOIL - 26/7/2022 SE234798.051	SOIL - 26/7/2022 SE234798.052	SOIL - 26/7/2022 SE234798.053	SOIL - 26/7/2022 SE234798.054	SOIL - 26/7/2022 SE234798.055
Hexachlorobenzene (HCB)	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lindane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Aldrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Delta BHC	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Heptachlor epoxide	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Gamma Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Alpha Chlordane	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
trans-Nonachlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Endrin	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beta Endosulfan	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
p,p'-DDD	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endosulfan sulphate	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Aldehyde	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Methoxychlor	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Endrin Ketone	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isodrin	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mirex	mg/kg	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Total CLP OC Pesticides	mg/kg	1	<1	<1	<1	<1	<1
Total OC VIC EPA	mg/kg	1	<1	<1	<1	<1	<1

OP Pesticides in Soil [AN420] Tested: 1/8/2022

PARAMETER	UOM	LOR	1	2	3	4	5
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.001	26/7/2022 SE234798.002	26/7/2022 SE234798.003	26/7/2022 SE234798.004	26/7/2022 SE234798.005
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	6	7	8	9	10
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.006	26/7/2022 SE234798.007	26/7/2022 SE234798.008	26/7/2022 SE234798.009	26/7/2022 SE234798.010
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	11	12	13	14	15
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.011	26/7/2022 SE234798.012	26/7/2022 SE234798.013	26/7/2022 SE234798.014	26/7/2022 SE234798.015
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	16	17	18	19	20
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.016	26/7/2022 SE234798.017	26/7/2022 SE234798.018	26/7/2022 SE234798.019	26/7/2022 SE234798.020
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	21	22	23	24	25
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.021	26/7/2022 SE234798.022	26/7/2022 SE234798.023	26/7/2022 SE234798.024	26/7/2022 SE234798.025
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	26	27	28	29	30
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.026	26/7/2022 SE234798.027	26/7/2022 SE234798.028	26/7/2022 SE234798.029	26/7/2022 SE234798.030
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	31	32	33	34	35
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.031	26/7/2022 SE234798.032	26/7/2022 SE234798.033	26/7/2022 SE234798.034	26/7/2022 SE234798.035
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	36	37	38	39	40
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.036	26/7/2022 SE234798.037	26/7/2022 SE234798.038	26/7/2022 SE234798.039	26/7/2022 SE234798.040
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	41	42	43	44	45
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.041	26/7/2022 SE234798.042	26/7/2022 SE234798.043	26/7/2022 SE234798.044	26/7/2022 SE234798.045
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

OP Pesticides in Soil [AN420] Tested: 1/8/2022 (continued)

PARAMETER	UOM	LOR	46	47	48	49	50
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.046	26/7/2022 SE234798.047	26/7/2022 SE234798.048	26/7/2022 SE234798.049	26/7/2022 SE234798.050
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

PARAMETER	UOM	LOR	51	52	1X	21X	41X
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.051	26/7/2022 SE234798.052	26/7/2022 SE234798.053	26/7/2022 SE234798.054	26/7/2022 SE234798.055
Dichlorvos	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dimethoate	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Diazinon (Dimpylate)	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fenitrothion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Malathion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorpyrifos (Chlorpyrifos Ethyl)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Parathion-ethyl (Parathion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromophos Ethyl	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methidathion	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethion	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Azinphos-methyl (Guthion)	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Total OP Pesticides*	mg/kg	1.7	<1.7	<1.7	<1.7	<1.7	<1.7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 3/8/2022

PARAMETER	UOM	LOR	1	2	3	4	5
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.001	26/7/2022 SE234798.002	26/7/2022 SE234798.003	26/7/2022 SE234798.004	26/7/2022 SE234798.005
Arsenic, As	mg/kg	1	1	<1	1	<1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	0.9	<0.5	2.8	0.9	3.9
Copper, Cu	mg/kg	0.5	1.1	4.4	9.5	5.8	5.4
Lead, Pb	mg/kg	1	<1	2	5	2	4
Nickel, Ni	mg/kg	0.5	<0.5	<0.5	1.1	0.6	1.9
Zinc, Zn	mg/kg	2	3	8	34	39	34

PARAMETER	UOM	LOR	6	7	8	9	10
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.006	26/7/2022 SE234798.007	26/7/2022 SE234798.008	26/7/2022 SE234798.009	26/7/2022 SE234798.010
Arsenic, As	mg/kg	1	2	1	2	<1	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	5.2	7.1	16	1.3	0.5
Copper, Cu	mg/kg	0.5	7.1	1.4	5.5	2.8	2.8
Lead, Pb	mg/kg	1	3	1	2	2	2
Nickel, Ni	mg/kg	0.5	1.7	1.0	1.9	0.6	<0.5
Zinc, Zn	mg/kg	2	9	8	9	4	4

PARAMETER	UOM	LOR	11	12	13	14	15
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.011	26/7/2022 SE234798.012	26/7/2022 SE234798.013	26/7/2022 SE234798.014	26/7/2022 SE234798.015
Arsenic, As	mg/kg	1	2	2	1	3	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.0	11	3.5	3.6	2.6
Copper, Cu	mg/kg	0.5	5.7	8.9	25	17	7.2
Lead, Pb	mg/kg	1	3	4	7	4	2
Nickel, Ni	mg/kg	0.5	1.5	1.7	1.2	0.7	<0.5
Zinc, Zn	mg/kg	2	22	25	40	170	17

PARAMETER	UOM	LOR	16	17	18	19	20
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.016	26/7/2022 SE234798.017	26/7/2022 SE234798.018	26/7/2022 SE234798.019	26/7/2022 SE234798.020
Arsenic, As	mg/kg	1	1	2	2	2	3
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	0.9	6.1	5.7	6.7	4.1
Copper, Cu	mg/kg	0.5	7.0	5.9	12	17	7.0
Lead, Pb	mg/kg	1	2	7	38	11	3
Nickel, Ni	mg/kg	0.5	<0.5	2.5	2.2	2.0	1.5
Zinc, Zn	mg/kg	2	9	44	180	180	7

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 3/8/2022

PARAMETER	UOM	LOR	21	22	23	24	25
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.021	26/7/2022 SE234798.022	26/7/2022 SE234798.023	26/7/2022 SE234798.024	26/7/2022 SE234798.025
Arsenic, As	mg/kg	1	2	2	2	3	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.8	7.5	0.7	7.9	<0.5
Copper, Cu	mg/kg	0.5	8.7	8.8	25	14	5.5
Lead, Pb	mg/kg	1	2	3	6	3	3
Nickel, Ni	mg/kg	0.5	1.4	7.6	0.7	0.9	<0.5
Zinc, Zn	mg/kg	2	31	46	26	31	18

PARAMETER	UOM	LOR	26	27	28	29	30
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.026	26/7/2022 SE234798.027	26/7/2022 SE234798.028	26/7/2022 SE234798.029	26/7/2022 SE234798.030
Arsenic, As	mg/kg	1	<1	3	7	2	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	0.3	<0.3
Chromium, Cr	mg/kg	0.5	1.0	10	16	6.2	4.4
Copper, Cu	mg/kg	0.5	2.9	11	2.2	29	5.8
Lead, Pb	mg/kg	1	3	13	13	15	12
Nickel, Ni	mg/kg	0.5	<0.5	5.1	1.1	7.8	1.0
Zinc, Zn	mg/kg	2	6	100	31	460	290

PARAMETER	UOM	LOR	31	32	33	34	35
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.031	26/7/2022 SE234798.032	26/7/2022 SE234798.033	26/7/2022 SE234798.034	26/7/2022 SE234798.035
Arsenic, As	mg/kg	1	7	3	3	3	<1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.9	5.3	5.5	7.8	3.1
Copper, Cu	mg/kg	0.5	39	18	13	13	4.5
Lead, Pb	mg/kg	1	7	4	6	3	5
Nickel, Ni	mg/kg	0.5	5.0	3.0	3.7	1.1	0.8
Zinc, Zn	mg/kg	2	120	66	49	39	9

PARAMETER	UOM	LOR	36	37	38	39	40
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.036	26/7/2022 SE234798.037	26/7/2022 SE234798.038	26/7/2022 SE234798.039	26/7/2022 SE234798.040
Arsenic, As	mg/kg	1	1	2	3	3	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	3.4	5.2	8.4	7.2	5.2
Copper, Cu	mg/kg	0.5	5.4	4.1	3.5	8.0	7.9
Lead, Pb	mg/kg	1	3	12	4	6	3
Nickel, Ni	mg/kg	0.5	0.7	1.4	1.4	3.3	1.2
Zinc, Zn	mg/kg	2	63	35	18	51	18

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 3/8/2022

PARAMETER	UOM	LOR	41	42	43	44	45
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.041	26/7/2022 SE234798.042	26/7/2022 SE234798.043	26/7/2022 SE234798.044	26/7/2022 SE234798.045
Arsenic, As	mg/kg	1	1	2	1	<1	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	4.3	8.2	5.1	3.7	4.7
Copper, Cu	mg/kg	0.5	2.9	2.1	3.5	2.7	21
Lead, Pb	mg/kg	1	2	3	1	2	3
Nickel, Ni	mg/kg	0.5	1.0	1.5	2.2	1.5	2.0
Zinc, Zn	mg/kg	2	14	12	14	10	110

PARAMETER	UOM	LOR	46	47	48	49	50
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.046	26/7/2022 SE234798.047	26/7/2022 SE234798.048	26/7/2022 SE234798.049	26/7/2022 SE234798.050
Arsenic, As	mg/kg	1	7	5	3	1	2
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	12	11	7.9	5.0	7.5
Copper, Cu	mg/kg	0.5	100	5.6	8.0	6.2	6.5
Lead, Pb	mg/kg	1	74	5	78	11	6
Nickel, Ni	mg/kg	0.5	3.8	2.0	1.4	1.8	3.2
Zinc, Zn	mg/kg	2	300	42	42	64	35

PARAMETER	UOM	LOR	51	52	1X	21X	41X
			SOIL	SOIL	SOIL	SOIL	SOIL
			26/7/2022 SE234798.051	26/7/2022 SE234798.052	26/7/2022 SE234798.053	26/7/2022 SE234798.054	26/7/2022 SE234798.055
Arsenic, As	mg/kg	1	2	1	<1	3	1
Cadmium, Cd	mg/kg	0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Chromium, Cr	mg/kg	0.5	6.0	4.7	1.1	6.0	4.5
Copper, Cu	mg/kg	0.5	6.9	1.6	1.2	18	2.9
Lead, Pb	mg/kg	1	5	3	1	4	2
Nickel, Ni	mg/kg	0.5	1.3	0.9	<0.5	2.9	1.1
Zinc, Zn	mg/kg	2	48	30	4	58	14

Mercury in Soil [AN312] Tested: 3/8/2022

			1	2	3	4	5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.001	SE234798.002	SE234798.003	SE234798.004	SE234798.005
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			6	7	8	9	10
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.006	SE234798.007	SE234798.008	SE234798.009	SE234798.010
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			11	12	13	14	15
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.011	SE234798.012	SE234798.013	SE234798.014	SE234798.015
Mercury	mg/kg	0.05	0.06	<0.05	0.10	<0.05	<0.05

			16	17	18	19	20
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.016	SE234798.017	SE234798.018	SE234798.019	SE234798.020
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	0.06	<0.05

			21	22	23	24	25
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.021	SE234798.022	SE234798.023	SE234798.024	SE234798.025
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	<0.05	<0.05

			26	27	28	29	30
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.026	SE234798.027	SE234798.028	SE234798.029	SE234798.030
Mercury	mg/kg	0.05	<0.05	<0.05	0.13	0.24	<0.05

			31	32	33	34	35
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.031	SE234798.032	SE234798.033	SE234798.034	SE234798.035
Mercury	mg/kg	0.05	0.08	0.08	0.07	<0.05	<0.05

Mercury in Soil [AN312] Tested: 3/8/2022 (continued)

			36	37	38	39	40
			SOIL - 26/7/2022 SE234798.036	SOIL - 26/7/2022 SE234798.037	SOIL - 26/7/2022 SE234798.038	SOIL - 26/7/2022 SE234798.039	SOIL - 26/7/2022 SE234798.040
PARAMETER	UOM	LOR					
Mercury	mg/kg	0.05	<0.05	<0.05	0.07	0.06	0.06

			41	42	43	44	45
			SOIL - 26/7/2022 SE234798.041	SOIL - 26/7/2022 SE234798.042	SOIL - 26/7/2022 SE234798.043	SOIL - 26/7/2022 SE234798.044	SOIL - 26/7/2022 SE234798.045
PARAMETER	UOM	LOR					
Mercury	mg/kg	0.05	0.07	0.09	0.06	<0.05	<0.05

			46	47	48	49	50
			SOIL - 26/7/2022 SE234798.046	SOIL - 26/7/2022 SE234798.047	SOIL - 26/7/2022 SE234798.048	SOIL - 26/7/2022 SE234798.049	SOIL - 26/7/2022 SE234798.050
PARAMETER	UOM	LOR					
Mercury	mg/kg	0.05	<0.05	<0.05	<0.05	0.05	0.13

			51	52	1X	21X	41X
			SOIL - 26/7/2022 SE234798.051	SOIL - 26/7/2022 SE234798.052	SOIL - 26/7/2022 SE234798.053	SOIL - 26/7/2022 SE234798.054	SOIL - 26/7/2022 SE234798.055
PARAMETER	UOM	LOR					
Mercury	mg/kg	0.05	0.09	<0.05	<0.05	0.06	0.07

Moisture Content [AN002] Tested: 1/8/2022

			1	2	3	4	5
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.001	SE234798.002	SE234798.003	SE234798.004	SE234798.005
% Moisture	%w/w	1	8.0	12.9	22.3	28.2	25.2

			6	7	8	9	10
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.006	SE234798.007	SE234798.008	SE234798.009	SE234798.010
% Moisture	%w/w	1	14.9	15.3	16.6	13.5	13.9

			11	12	13	14	15
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.011	SE234798.012	SE234798.013	SE234798.014	SE234798.015
% Moisture	%w/w	1	25.7	24.7	39.0	17.9	18.7

			16	17	18	19	20
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.016	SE234798.017	SE234798.018	SE234798.019	SE234798.020
% Moisture	%w/w	1	18.0	16.1	15.3	23.1	12.5

			21	22	23	24	25
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.021	SE234798.022	SE234798.023	SE234798.024	SE234798.025
% Moisture	%w/w	1	28.1	17.1	33.5	26.6	15.2

			26	27	28	29	30
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.026	SE234798.027	SE234798.028	SE234798.029	SE234798.030
% Moisture	%w/w	1	11.6	19.5	16.4	53.0	16.0

			31	32	33	34	35
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798.031	SE234798.032	SE234798.033	SE234798.034	SE234798.035
% Moisture	%w/w	1	64.0	42.3	45.7	30.8	12.5

Moisture Content [AN002] Tested: 1/8/2022 (continued)

			36	37	38	39	40
			SOIL - 26/7/2022 SE234798.036	SOIL - 26/7/2022 SE234798.037	SOIL - 26/7/2022 SE234798.038	SOIL - 26/7/2022 SE234798.039	SOIL - 26/7/2022 SE234798.040
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	11.7	20.1	11.5	31.3	21.1

			41	42	43	44	45
			SOIL - 26/7/2022 SE234798.041	SOIL - 26/7/2022 SE234798.042	SOIL - 26/7/2022 SE234798.043	SOIL - 26/7/2022 SE234798.044	SOIL - 26/7/2022 SE234798.045
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	18.8	25.2	25.9	18.6	21.6

			46	47	48	49	50
			SOIL - 26/7/2022 SE234798.046	SOIL - 26/7/2022 SE234798.047	SOIL - 26/7/2022 SE234798.048	SOIL - 26/7/2022 SE234798.049	SOIL - 26/7/2022 SE234798.050
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	23.8	20.6	23.7	28.3	16.8

			51	52	1X	21X	41X
			SOIL - 26/7/2022 SE234798.051	SOIL - 26/7/2022 SE234798.052	SOIL - 26/7/2022 SE234798.053	SOIL - 26/7/2022 SE234798.054	SOIL - 26/7/2022 SE234798.055
PARAMETER	UOM	LOR					
% Moisture	%w/w	1	17.5	19.2	9.0	57.6	18.0

METHOD

METHODOLOGY SUMMARY

AN002	The test is carried out by drying (at either 40°C or 105°C) a known mass of sample in a weighed evaporating basin. After fully dry the sample is re-weighed. Samples such as sludge and sediment having high percentages of moisture will take some time in a drying oven for complete removal of water.
AN040/AN320	A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.
AN040	A portion of sample is digested with Nitric acid to decompose organic matter and Hydrochloric acid to complete the digestion of metals and then filtered for analysis by ASS or ICP as per USEPA Method 200.8.
AN312	Mercury by Cold Vapour AAS in Soils: After digestion with nitric acid, hydrogen peroxide and hydrochloric acid, mercury ions are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500
AN420	SVOC Compounds: Semi-Volatile Organic Compounds (SVOCs) including OC, OP, PCB, Herbicides, PAH, Phthalates and Speciated Phenols in soils, sediments and waters are determined by GCMS/ECD technique following appropriate solvent extraction process (Based on USEPA 3500C and 8270D).

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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Project **22257 - Yagers Lane - PSI - Additional**
 Order Number **22257**
 Samples **55**

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SGS Reference **SE234798A R0**
 Date Received **15/8/2022**
 Date Reported **16/8/2022**

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

SIGNATORIES



Dong LIANG
 Metals/Inorganics Team Leader

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/8/2022

PARAMETER	UOM	LOR	1	2	3	4	5
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.001	- 26/7/2022 SE234798A.002	- 26/7/2022 SE234798A.003	- 26/7/2022 SE234798A.004	- 26/7/2022 SE234798A.005
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	<5	<5	<5	<5	<5
Cobalt, Co	mg/kg	0.5	<0.5	<0.5	0.6	<0.5	1.7
Manganese, Mn	mg/kg	1	8	6	81	110	120
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	6	7	8	9	10
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.006	- 26/7/2022 SE234798A.007	- 26/7/2022 SE234798A.008	- 26/7/2022 SE234798A.009	- 26/7/2022 SE234798A.010
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	<5	<5	9	<5	<5
Cobalt, Co	mg/kg	0.5	1.3	<0.5	0.5	<0.5	<0.5
Manganese, Mn	mg/kg	1	86	14	37	29	10
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	11	12	13	14	15
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.011	- 26/7/2022 SE234798A.012	- 26/7/2022 SE234798A.013	- 26/7/2022 SE234798A.014	- 26/7/2022 SE234798A.015
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	8	12	<5	<5	<5
Cobalt, Co	mg/kg	0.5	1.0	0.8	<0.5	<0.5	<0.5
Manganese, Mn	mg/kg	1	74	50	76	72	53
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	16	17	18	19	20
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.016	- 26/7/2022 SE234798A.017	- 26/7/2022 SE234798A.018	- 26/7/2022 SE234798A.019	- 26/7/2022 SE234798A.020
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	<5	14	7	6	<5
Cobalt, Co	mg/kg	0.5	<0.5	4.0	1.4	0.9	0.6
Manganese, Mn	mg/kg	1	7	290	120	75	76
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	21	22	23	24	25
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.021	- 26/7/2022 SE234798A.022	- 26/7/2022 SE234798A.023	- 26/7/2022 SE234798A.024	- 26/7/2022 SE234798A.025
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	6	13	<5	6	<5
Cobalt, Co	mg/kg	0.5	3.2	9.2	<0.5	<0.5	<0.5
Manganese, Mn	mg/kg	1	120	130	22	49	5
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/8/2022

PARAMETER	UOM	LOR	26	27	28	29	30
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.026	- 26/7/2022 SE234798A.027	- 26/7/2022 SE234798A.028	- 26/7/2022 SE234798A.029	- 26/7/2022 SE234798A.030
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	<5	9	24	18	<5
Cobalt, Co	mg/kg	0.5	<0.5	4.9	0.6	2.2	<0.5
Manganese, Mn	mg/kg	1	6	320	58	260	28
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	31	32	33	34	35
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.031	- 26/7/2022 SE234798A.032	- 26/7/2022 SE234798A.033	- 26/7/2022 SE234798A.034	- 26/7/2022 SE234798A.035
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	21	<5	10	10	<5
Cobalt, Co	mg/kg	0.5	3.8	1.4	3.4	1.0	<0.5
Manganese, Mn	mg/kg	1	45	17	97	120	9
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	36	37	38	39	40
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.036	- 26/7/2022 SE234798A.037	- 26/7/2022 SE234798A.038	- 26/7/2022 SE234798A.039	- 26/7/2022 SE234798A.040
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	6	8	6	12	8
Cobalt, Co	mg/kg	0.5	0.6	1.1	0.6	4.0	0.6
Manganese, Mn	mg/kg	1	130	79	22	170	23
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	41	42	43	44	45
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.041	- 26/7/2022 SE234798A.042	- 26/7/2022 SE234798A.043	- 26/7/2022 SE234798A.044	- 26/7/2022 SE234798A.045
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	7	12	7	6	8
Cobalt, Co	mg/kg	0.5	<0.5	0.7	1.4	1.5	2.2
Manganese, Mn	mg/kg	1	43	38	64	42	130
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

PARAMETER	UOM	LOR	46	47	48	49	50
			SOIL	SOIL	SOIL	SOIL	SOIL
			- 26/7/2022 SE234798A.046	- 26/7/2022 SE234798A.047	- 26/7/2022 SE234798A.048	- 26/7/2022 SE234798A.049	- 26/7/2022 SE234798A.050
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	13	10	13	9	20
Cobalt, Co	mg/kg	0.5	4.4	1.8	0.9	1.1	2.1
Manganese, Mn	mg/kg	1	130	88	61	130	86
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3



ANALYTICAL RESULTS

SE234798A R0

Total Recoverable Elements in Soil/Waste Solids/Materials by ICPOES [AN040/AN320] Tested: 15/8/2022

			51	52	1X	21X	41X
			SOIL	SOIL	SOIL	SOIL	SOIL
			-	-	-	-	-
			26/7/2022	26/7/2022	26/7/2022	26/7/2022	26/7/2022
PARAMETER	UOM	LOR	SE234798A.051	SE234798A.052	SE234798A.053	SE234798A.054	SE234798A.055
Beryllium, Be	mg/kg	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron, B	mg/kg	5	10	8	<5	13	8
Cobalt, Co	mg/kg	0.5	1.1	0.5	<0.5	6.4	<0.5
Manganese, Mn	mg/kg	1	55	32	17	240	42
Selenium, Se	mg/kg	3	<3	<3	<3	<3	<3

METHOD

METHODOLOGY SUMMARY

AN040/AN320

A portion of sample is digested with nitric acid to decompose organic matter and hydrochloric acid to complete the digestion of metals. The digest is then analysed by ICP OES with metals results reported on the dried sample basis. Based on USEPA method 200.8 and 6010C.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.

Note that in terms of units of radioactivity:

- 1 Bq is equivalent to 27 pCi
- 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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